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ABSTRACT

The 1997 "Condition of Education" is an indicator report, analyzing key data that measure the health of education, monitor important developments, and show trends in major aspects of education. The report first presents four "Issues in Focus": (1) "The Social Context of Education"; (2) "Women in Mathematics and Science"; (3) "Public and Private Schools: How Do They Differ?; and (4) "Postsecondary Persistence and Attainment." Following the discussion of issues are 60 indicators of the current status of education, 18 of which are new. The indicators are divided into six areas: (1) access, participation, and progress; (2) achievement, attainment, and curriculum; (3) economic and other outcomes of education; (4) organization and management of educational institutions; (5) climate and diversity of educational institutions; and (6) human and financial resources of educational institutions. The report includes the text, tables, and charts for each indicator plus the technical supporting data, supplemental information, and data sources. Information on issues in elementary and secondary education are integrated with those on issues in postsecondary education to reflect the continuity of educational experiences. Appendices comprise over half of the publication and contain supplemental tables and notes, a list of data sources, a glossary, an index, and a list of selected publications of the National Center for Education Statistics. (LMI)

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THE CONDITION OF EDUCATION 1997

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THE CONDITION OF EDUCATION 1997

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The National Center for Education Statistics (NCES) is the primary federal entity for collecting, analyzing, and reporting data related to education in the United States and other nations. It fulfills a congressional mandate to collect, collate, analyze, and report full and complete statistics on the condition of education in the United States; conduct and publish reports and specialized analyses of the meaning and significance of such statistics; assist state and local education agencies in improving their statistical systems; and review and report on education activities in foreign countries.

NCES activities are designed to address high priority education data needs; provide consistent, reliable, complete, and accurate indicators of education status and trends; and report timely, useful, and high quality data to the U.S. Department of Education, the Congress, the states, other education policymakers, practitioners, data users, and the general public.

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Commissioner's Statement

The National Center for Education Statistics (NCES) gathers and publishes information on the status and progress of education in the United States. The congressional authorization for these activities (with antecedents to 1867) states that the purpose of the Center is to collect and report "... statistics and information showing the condition and progress of education in the United States and other nations in order to promote and accelerate the improvement of American education"—Section 402(b) of the National Education Statistics Act of 1994 (20 U.S.C. 9001). This law also mandates an annual statistical report on the subject from the Commissioner of Education Statistics. This 1997 edition of *The Condition of Education* responds to the requirements of that law.

Interest in education data and indicators: Federal, state, and local policymakers require a variety of information to develop, implement, and monitor policies designed to improve education. Education and business organizations, as well as community groups and citizens, generally want to know how to make and support efforts designed to bring about that improvement. Informed decisions cannot be made without valid information, however. As various groups voice their desires and concerns about our schools, NCES continually seeks to define efficient and effective measures that can meet the demands for timely, useful information, while maintaining high statistical standards. At the same time, the interest in data about new topics has not lessened the need for basic statistical information about educational institutions and trends.

Developing education indicators is one way the Center has participated in a widening national discussion about the types of measures needed to serve these diverse purposes. *The Condition of Education* is an indicator report, analyzing key data that measure the health of education, monitor important developments, and show trends in major aspects of education. Unlike most other statistics, an indicator is policy relevant and problem oriented; it usually incorporates a standard against which to judge progress or regression. Indicators cannot, however, identify causes or solutions and should not be used to draw conclusions without other evidence.

Organization of this report: The format of *The Condition of Education* is designed to present statistical information in a manner accessible to a general audience. The *Condition* first presents four Issues in Focus: The Social Context of Education; Women in Mathematics and Science; Public and Private Schools: How Do They Differ?; and Postsecondary Persistence and Attainment. These topics were chosen because they are important to the national education policy debate. The data summarized in these essays are drawn from this report, as well as other sources, in order to construct a comprehensive statistical picture on these issues. Following the Issues in Focus are the indicators, with each one appearing on two facing pages. The first page presents statistical results and one or two tables with supporting data, while the second page presents one or more figures that illustrate the major findings of the indicator.

The indicators are organized into six sections: (1) Access, Participation, and Progress; (2) Achievement, Attainment, and Curriculum; (3) Economic and Other Outcomes of Education; (4) Organization and Management of Educational Institutions; (5) Climate and Diversity of Educational Institutions; and (6) Financial and Human Resources of Educational Institutions. Within each section, indicators on issues in elementary and secondary education are integrated with those on issues in postsecondary education to reflect the continuity of educational experiences. In addition, a discussion preceding each of the six sections provides a brief overview of the indicators in that section. Additional tables and supplemental notes that support both the Issues in Focus and the indicators follow the six indicator sections. For those interested in delving deeper into the supporting data, a companion volume is available, entitled *The Condition of Education 1997 Supplemental and Standard Error Tables*. (See the reply card at the end of this volume for ordering information.)

Indicator selection: Each year, indicators are carefully selected, and no more than 60 indicators are presented in each year's report. The indicators represent a consensus of professional judgment on the most significant national measures of the condition and progress of education at this time, but are tempered necessarily by the availability of current and valid information. The indicators presented here reflect a basic core that can be repeated with updated information on a yearly or other cyclical basis, supplemented by a more limited set of indicators based on infrequent or special studies.

The indicators presented in this report were developed using data from 29 different studies carried out by NCES, as well as from surveys conducted elsewhere, both within and outside of the federal government. Although indicators may be simple statistics, more often they are analyses—examining relationships; showing changes over time; comparing or contrasting subpopulations, regions, or states; or studying characteristics of students from different backgrounds. Data used for these indicators are the most valid and representative education statistics available in the United States today for the subjects and issues at hand.

The utility of *The Condition of Education* should increase as more diverse, high quality data become available, especially as new time series data can be constructed. For example, in 1996, data on the mathematics and science performance of 8th-grade students in 41 countries were released in the Third International Mathematics and Science Study (TIMSS). Data on 4th- and 12th-grade students will be available in mid-1997 and early 1998, respectively. In this study, NCES combined multiple methodologies to create an information base that goes beyond simple student test score comparisons and questionnaires to examine the fundamental elements of schooling. A number of innovative research techniques were used in TIMSS, including analyses of textbooks and curricula, videotapes, and ethnographic studies. NCES is currently exploring the utility of expanding some of its other surveys to use similar kinds of techniques.

This year's edition contains 18 new indicators, either based on recently released data or exploring new issues with previously existing data. These new indicators are integrated throughout the report:

- Early literacy experiences in the home;
- Early signs of school problems;
- Grade retention, by English language usage and proficiency, and disability status;
- School library media center resources;
- Postsecondary enrollment rates among the high school classes of 1972, 1980, and 1992;
- Employment and postsecondary persistence and attainment;
- Reading and writing habits of students;
- International comparisons of mathematics and science performance of eighth-grade students;
- Labor market outcomes for non-college-bound high school graduates;
- Community service activities following high school;
- Homework assigned by elementary teachers;
- Teachers' use of various instructional methods;
- Use of student portfolios by elementary teachers;
- Public schools with bilingual or ESL programs;
- Students who have been suspended from school;
- Teacher satisfaction;
- Research output of postsecondary faculty; and
- Nontenure-track faculty.

Data on early childhood education will greatly expand with the start of the Early Childhood Longitudinal Study, which will follow a sample of children from kindergarten through fifth grade, beginning in 1998. Plans are also under way for the next wave of the Schools and Staffing Survey (SASS), National Study of Postsecondary Faculty (NSOPF), and National Adult Literacy Survey (NALS). In addition, the next round of secondary and postsecondary longitudinal studies will enable us to update what we have learned from the National Longitudinal Study of the High School Class of 1972 (NLS-72), the High School and Beyond (HS&B) Study, the National Education Longitudinal Study of 1988 (NELS:88), the Beginning Postsecondary Students Longitudinal Study (BPS), and the Baccalaureate and Beyond Longitudinal Study (B&B). New data from each of these studies will help us better understand the educational experience in our nation's schools and colleges.

Availability of NCES data and information: We strive to make our products available in a variety of formats and in language that is appropriate to diverse audiences. Currently, most NCES publications and data sets are available on-line through the NCES Internet site at http://www.ed.gov/NCES. I hope that you find this medium a useful way to access our data. In addition, the National Education Data Resource Center (NEDRC) performs special statistical analyses and tabulations of NCES data sets. NEDRC services are free of charge for state education personnel, education researchers, and others requesting special tabulations. NEDRC also distributes NCES publications and CD-ROMs containing NCES data. (See the description of NEDRC in the back for more information.)

I hope that you find the material in this document useful and invite you to send us comments on how we can improve future editions of this report.

Pascal D. Forgione, Jr.

Pascal D. Forgione, Jr., Ph.D.
Commissioner of Education Statistics

Acknowledgments

The Condition of Education 1997 was authored by a joint NCES/Pinkerton Computer Consultants, Inc./MPR Associates, Inc./American Institutes for Research team under the general direction of Thomas M. Smith, Director of *The Condition of Education* Project in the Data Development and Longitudinal Studies Group. Overall direction was provided by Thomas D. Snyder, Director of the Annual Reports Program. Rebecca Pratt of Pinkerton Computer Consultants, Inc. was the managing editor for the publication. Ginger G. Rittenhouse of Pinkerton Computer Consultants, Inc. carefully edited the manuscript and coordinated the production of the volume.

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Producing *The Condition of Education* requires a 12 month cycle. The *Condition* team formally asks for advice twice during this cycle, once when developing the proposed table of contents and again when the draft report has been prepared. Reviewers of the plan for the 1997 edition of *The Condition of Education* included Rolf Blank and Barb Clements, Council of Chief State School Officers; Jewell Gould, American Federation of Teachers; Jack Jennings and Diane Stark, Center on National Education Policy; Jacqueline King, American Council on Education; Leslie Lawrence, National Education Goals Panel; and Audrey Pendleton and Daniel Goldenberg of the Planning and Evaluation Service, Office of the Undersecretary.

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The Social Context of Education

by Beth Aronstamm Young, Pinkerton Computer Consultants, Inc. and Thomas M. Smith, NCES

Children in the United States come from a variety of family situations, income strata, and cultural backgrounds. As a result, our Nation's schools are faced with unique challenges as they strive to provide equal educational opportunities to all students.[1] Factors such as family income, family structure, and parents' education have been shown to influence a child's educational opportunities. Today, of the 4 million babies born each year, nearly one out of eight is born to a teenage mother, one out of four to a mother with less than a high school education, almost one out of three to a mother who lives in poverty, and one out of four to an unmarried mother.[2] These conditions have been shown to be associated with children who experience problems such as repeating a grade, requiring special education services, and being suspended and dropping out of school.[3]

Students from racial/ethnic minority backgrounds and low income families are more at risk for poor school outcomes and are becoming an increasing share of the student population.[4] Since the mid-1960s, studies have linked the educational disadvantage of minority students to a combination of out-of-school factors, many of which center on family characteristics, such as poverty and parents' education.[5] The data contained in this report highlight similar findings.

Changes over time in the composition of students in terms of factors such as student English language proficiency, family income, parents' education, and family structure affect the social context of education. In the essay that follows, associations between these student-level social factors and different indicators of educational access and progress are reviewed. For each student background factor, the essay will point out how these factors have changed for families and children over time, as well as how they affect various racial/ethnic groups.

The social context of schooling is also a function of how students with various characteristics are distributed across schools. The last half of this essay examines differences in school climate and human and financial resources in high and low poverty schools. The data on these factors reflect changing conditions that schools must confront in order to be effective. In order to provide equal educational opportunity, policymakers must be aware of differences in the background of students, as well as differences in the climate and resources of schools.

Student Background

Social background factors such as race/ethnicity, limited English proficiency, family income, parental education, and family structure are associated with various levels of educational access and different educational outcomes. For example, differences in preprimary enrollment, incidence of early childhood academic and behavioral problems, level of student achievement, and the likelihood of dropping out of school or going on to college after graduation are each associated with various social background factors. Such factors are interrelated, however, and must be examined jointly when trying to understand the effect of any single factor on education. For example, a recent study showed that variation in student performance associated with family structure disappeared when other factors, such as family income, family size, and parents' education level, are taken into account.[6] Several examples of the association between social and educational access and outcomes contained in this report are summarized below.

- *Poverty is negatively associated with enrollment rates in early childhood education programs.*

Differences in enrollment rates in early childhood education across levels of poverty may indicate differential access to this level of education. For example, in 1995, 3- and 4-year-olds from families who were classified as poor (a measure of a family's composition and income) were less likely to be enrolled in preprimary education than 3- and 4-year-olds from families who were classified as non-poor (24 and 52 percent compared to 42 and 64 percent, respectively) (table 1-1).

- *Children in single parent families are more likely to experience early school problems and are less likely to participate in early literacy activities than children in two parent families.*

Family structure is associated with children's early literacy activities and early school problems. In 1995, 3- to 5-year-olds living with two biological or adoptive parents were more likely to have been read to three or more times a week, to have been told a story once a week, or to have visited the library in the previous month than 3- to 5-year-olds living with one biological or adoptive parent (table 2-1). Moreover, first- and second-graders aged 6–8 living with one biological or adoptive parent were more likely to experience academic problems and to have their parents report that they were academically below the middle of their class than those students living with two biological or adoptive parents (table 3-1).

- *Parents' education level is strongly associated with student achievement.*

In general, children of parents with higher levels of education perform better, on average, on assessments of student achievement. For example, in 1994, 13- and 17-year-olds whose parents had at least some college had higher mathematics and science proficiency scores than those whose parents did not finish high school. Parents' educational attainment was positively related to reading and writing scores as well (tables 15-4 and 16-4).

- *Difficulty speaking English is associated with dropping out of school.*

In 1995, of those 16- to 24-year-olds who spoke a language other than English at home, the dropout rate of those who had difficulty speaking English (44 percent) was substantially more than that of those who did not have difficulty speaking English (12 percent) (table 4-1).

- *High school graduates from high income families are more likely than high school graduates from low income families to go directly to college.*

High school graduates from low income families were more likely to go directly to college in 1995 than in 1972.[7] Still, in 1995, 34 percent of high school graduates from low income families went directly to college, compared to 83 percent of those from high income families (*Indicator 8*).

Changes in the social background of children

The learning environment of schools can be enhanced by what students with a variety of backgrounds and interests bring with them; however, heterogeneity of student ability levels and preparation for school may create increased challenges for schools to meet the needs of students from different social backgrounds. This section describes changes in the social background characteristics of children in general, as well as of children from various racial/ethnic groups.

Racial/ethnic makeup of students

A greater racial/ethnic diversity of students is related to more heterogeneity of language and culture in our Nation's schools. Many minority students come from poverty or non-English language backgrounds and may be at greater risk of not succeeding in school than other children.

- *Minority students are projected to make up an increasing share of the school age population during the coming decades.*

Racial and ethnic diversity has increased substantially in the United States in the last two decades, and is projected to increase even more in the decades to come. In 1995, 67 percent of U.S. children aged 5–17 were white, 15 percent were black, 13 percent were Hispanic, and 5 percent were Asian/Pacific Islander, American Indian, and Alaskan Native.[8] Between 2000 and 2020, the number of minority children aged 5–17 is projected to grow much faster than the number of white children. Between 2000 and 2020, it is projected that there will be 61 percent more Hispanic children aged 14–17 and 47 percent more Hispanic children aged 5–13. The numbers of Asian/Pacific Islander, American Indian, and Alaskan Native children aged 14–17 is projected to increase by 73 percent, while the number of those children aged 5–13 is projected to grow by 67 percent. In contrast, between 2000 and 2020, the number of white children aged 5–13 is projected to decrease by 11 percent, and the number of white children aged 14–17 is projected to decrease by 10 percent.

Table 1. Percentage change in the population of children aged 5–17, by race/ethnicity

Race/ethnicity	Percentage change 1993 to 2000	 2000 to 2020
White		
Aged 5–13	2.9	-11.2
Aged 14–17	10.1	-10.3
Black		
Aged 5–13	12.9	15.4
Aged 14–17	11.5	20.0
Hispanic		
Aged 5–13	29.8	47.0
Aged 14–17	23.6	60.6
Other		
Aged 5–13	32.5	67.2
Aged 14–17	45.1	73.3

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Youth Indicators 1996*, Indicator 2.

Difficulty speaking English

Children who speak languages other than English at home and who have difficulty speaking English face great challenges progressing through school. By law, school systems across the United States must provide services for children who have difficulty speaking English. Difficulty speaking English is most common among immigrant children and the U.S.-born children of immigrants.

- *The percentage of children having difficulty speaking English increased in recent years.*

Between 1979 and 1989, the percentage of children aged 5–17 in the United States who spoke a non-English language at home and who had difficulty speaking English increased from 3 to 5 percent and remained at 5 percent between 1989 and 1995. Hispanic children were more likely to have difficulty speaking English than their white or black peers. In 1995, 31 percent of Hispanic children spoke a non-English language at home and had difficulty speaking English, compared to 1 percent each of black and white children. The percentage of Hispanic children who spoke a non-English language at home and who had difficulty speaking English increased slightly between 1979 and 1995.[9]

Table 2. Percentage of children aged 5–17 who spoke a language other than English at home and who spoke English with difficulty,* by race/ethnicity: 1979, 1989, 1992, and 1995

Race/ethnicity	1979	1989	1992	1995
Total	**3**	**5**	**5**	**5**
White	1	1	1	1
Black	—	1	2	1
Hispanic	29	28	30	31

— Too few sample observations for a reliable estimate

* Respondents were asked to rate the child's ability to speak English using the following scale: "not at all," "not well," "well," or "very well." All those who reported less than "very well" were categorized as having difficulty speaking English

SOURCE: U.S. Department of Commerce, Bureau of the Census, October Current Population Surveys

Socioeconomic status

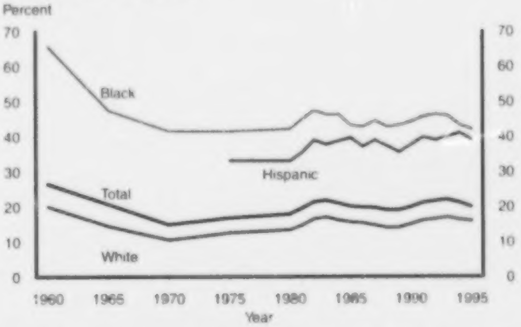
Many studies have found that students' socioeconomic status (SES) is associated with their likelihood of success in school. Whether measured by parents' income, occupational prestige, or level of education, students from low SES families are more likely to experience school failure than those from higher SES families.[10] Differences in the educational success of minority groups are also confounded by differences in the average SES level of minority and white families.[11] The rest of this section summarizes the changes in SES factors, which include family income, poverty rates, and parents' education level.

- *Although median family income has increased substantially since 1950, there has been little gain since 1970. Median family income in black and Hispanic households remains at about 60 percent of income in white households.*

Median family income, in constant dollars, increased substantially between 1950 and 1970; however, median family income showed no real gains in the 1970s, a modest increase during the 1980s, and a decline between 1989 and 1993.[12] Income in black and Hispanic households remains much less than that in white households. In 1993, the median family income for whites was $39,300, compared to $24,542 for blacks and $23,654 for Hispanics. These income differences by race/ethnicity are also evident in poverty rates.

- *In 1995, both black and Hispanic children were more than twice as likely as white children to live in poverty.*

Figure 1. Percentage of children less than 18 years old who lived in families with incomes below the poverty level: Selected years 1960—95



SOURCE: Indicator 44, *Condition 1996*, and U.S. Bureau of the Census, Current Population Reports P60-194, *Poverty in the United States: 1995*, 1996

The proportion of children under 18 who lived in families with incomes below the poverty level decreased substantially during the 1960s and then rose from 1970 to 1983. Between 1983 and 1995, the poverty rate for children fluctuated between 19 and 22 percent. Throughout the period, minority children were more likely to live in poverty than white children. In 1995, both black and Hispanic children (42 and 39 percent, respectively) were more than twice as likely as white children (16 percent) to live in poverty. Children living with two married parents were also much less likely to live below the poverty level than children living only with their mother (6 percent of children compared to 32 percent).[13]

- *Poverty rates are much higher in the United States than in many other industrialized countries.*

The percentage of children living below the poverty line, adjusted for the impact of taxes and governmental transfers on income, suggests how effective government fiscal policies are at reducing income inequalities and poverty in a society. Among countries with data available, the United States was the only wealthy industrialized country to have double-digit child poverty rates (20.4 percent in 1986) after adjusting for taxes and governmental transfers.[14] The post-transfer poverty rates for children in the United States were between two and seven times higher than comparable rates in Canada, France, former West Germany, and the United Kingdom.

Table 3. Percentage of children (aged 17 or younger) whose family income is below 40 percent of adjusted median family income, by tax and transfer status and country

G-7 Country	Year	Before transfer	After transfer
Canada	1987	15.7	9.3
France	1984	21.1	4.6
West Germany (former)	1984	8.4	2.8
United Kingdom	1986	27.9	7.4
United States	**1986**	**22.3**	**20.4**

NOTE: No data were available for Italy and Japan.

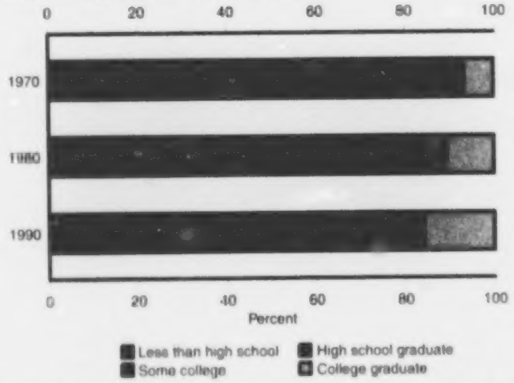
SOURCE: U.S. Department of Education, National Center for Education Statistics, *Educational Indicators: An International Perspective*, 1996, Indicator 35.

Parents' education levels are strongly associated with family income levels. Disentangling the separate effects of parents' education and family income on children's education is extremely difficult. Both are, in fact, often used as proxies for SES. Independent of income, however, parents' level of education may influence the value that parents place on education, which in turn can influence their children's educational attainment.[15] While median family income has been relatively stagnant (in constant dollars) since 1970, the average education level of parents has been increasing. Changes in parents' education levels may be an indicator of changes in families' ability to support and promote education for their children.

- *Parents' education levels have increased dramatically since 1970.*

The average education level of parents has continued to increase. For example, the percentage of fathers with less than a high school education declined from 43 percent in 1970 to 19 percent in 1990. Over the same 20-year period, the percentage of fathers with a bachelor's degree or higher increased from 13 to 23 percent. The percentage of mothers with less than a high school diploma declined from 38 to 17 percent between 1970 and 1990, while the percentage with a bachelor's degree or higher doubled.[16] There is some evidence that this increase has had an impact on student performance. A recent study on family characteristics and test scores found that parents' education was the family characteristic most strongly related to student achievement.[17]

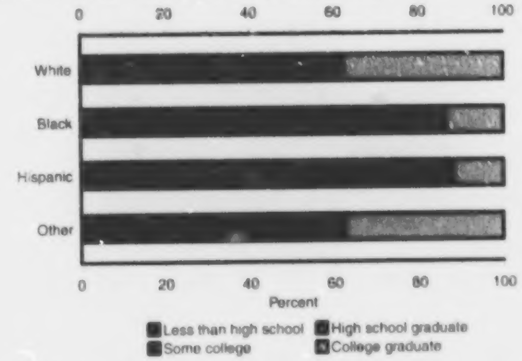
Figure 2. Percentage distribution of the highest education level of mothers with children aged 15–18: 1970, 1980, and 1990



SOURCE: RAND, *Student Achievement and the Changing American Family*, 1994.

- *Parents' level of education remains higher for white children than for black or Hispanic children.*

Figure 3. Percentage distribution of the highest education level of parents with children aged 3–5, by race/ethnicity: 1995



SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey, 1995.

Although the average highest education level of parents has increased considerably, black and Hispanic children remain more likely than white children to have parents who did not graduate from high school and are less likely than white children to have parents who graduated from college. For example, in 1995, 16 percent of black and 27 percent of Hispanic children aged 3–5 had parents who had not completed high school, compared to 4 percent of their white counterparts.

Family structure

The definition of a "family" has changed greatly in the past three decades. Today children may live in a variety of family structures. For example, in 1995, 25 percent of children aged 6–8 lived with a single parent, 3 percent lived with other relatives, and 64 percent lived with two biological or adoptive parents.

Table 4. Percentage distribution of children from birth to age 8, by family structure: 1995

Family structure	Birth to age 2	Aged 3–5	Aged 6–8
Total	**100.0**	**100.0**	**100.0**
Two biological or adoptive parents	72.4	67.0	64.0
One biological or adoptive parent	24.2	25.7	25.3
One biological and one stepparent	1.3	4.7	7.8
Other relatives	2.0	2.7	2.9

NOTE: Details may not add to totals due to rounding.

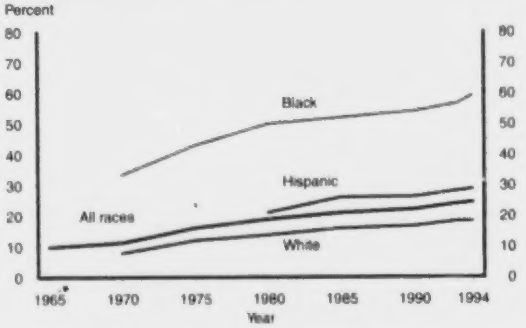
SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey, 1995.

Different family structures are associated with different educational outcomes, even though the effects of family structure are likely to be confounded by family income, parents' education level, race/ethnicity, and the amount of time that parents participate in their children's education.[18] Because different family structures are associated with different educational outcomes, it is important to examine how the structure of families has changed over time.

- *The proportion of children living in single parent families has more than doubled since 1970. In 1994, black children were three times more likely than white children to live in a single parent family.*

The proportion of children living in single parent families increased sharply during the 1970s and continued to rise slowly through the early 1990s. In 1994, 25 percent of children under age 18 lived in single parent families, while 11 percent did so in 1970. Between 1970 and 1994, the percentage of black children living in a single parent family nearly doubled. In 1994, 60 percent of black children lived in single parent families compared to 19 percent of white children and 29 percent of Hispanic children.[19]

Figure 4. Percentage of children under age 18 living in single parent families, by race/ethnicity of family householder: Selected years 1965–94



SOURCE: U.S. Department of Education, National Center for Education Statistics, *Youth Indicators 1996*, Indicator 11.

Social context of public schools

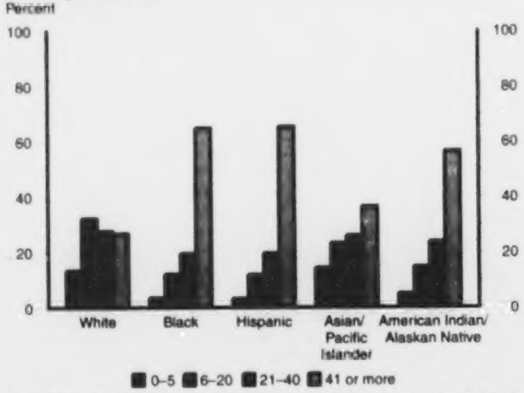
An analysis of the social context of education cannot be complete unless it also examines differences in the schooling environment across low and high poverty schools.[20] Research has shown that student performance is strongly related to the educational backgrounds and aspirations of other students in the school.[21] This context or composition effect has been found to be particularly strong for low income students. For example, low income students in schools with small concentrations of such students have higher achievement and graduation rates than their counterparts in schools with high concentrations of low income students.[22]

The percentage of students receiving free or reduced-price lunches in school is the most widely available and comparable measure of school poverty concentration.[23] For the purpose of this essay, "low poverty" is a term used to describe public schools in which 5 percent or fewer of the students receive free or reduced-price lunches, and "high poverty" is used to describe public schools in which more than 40 percent of students receive free or reduced-price lunches.

- *Minority students are more likely than white students to attend high poverty schools.*

Differences in climate or in the distribution of resources between high and low poverty schools have a disproportionate impact on minorities, as racial/ethnic minorities are far more likely to attend high poverty schools. In the 1993–94 school year, 27 percent of white students were in schools with a high poverty rate compared to 65 percent of black and Hispanic students, 37 percent of Asian/Pacific Islander students, and 57 percent of American Indian/Alaskan Native students.

Figure 5. Percentage distribution of students, by percentage of students eligible for free or reduced-price lunch in public schools: School year 1993–94



SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey, 1993–94.

Systematic differences in the learning environment and the level of financial and human resources between high and low poverty schools can adversely affect the equality of educational opportunities, especially for many minority children. The remainder of this essay will examine differences in these educational opportunities between high and low poverty public schools.

Learning environment in high and low poverty schools

Differences in how teachers in high and low poverty schools perceive conditions in their schools may reflect differences in the learning environment in which education takes place in those schools.

- *Public school teachers in high poverty schools are more likely to report that student misbehavior interfered with their teaching than were teachers in low poverty schools.*

In the 1993–94 school year, public school teachers from high poverty schools were less likely to be satisfied with their school conditions than were teachers from low poverty schools (*Indicator 49*). For example, teachers in high poverty schools were more likely than their counterparts in low poverty schools to report that student misbehavior (e.g., noise, horseplay, or fighting in the halls, cafeteria, or student lounge) in their school interfered with their teaching (18 and 8 percent, respectively). Teachers in high and low poverty schools were about equally likely, however, to agree strongly that their principal enforced school rules for student conduct and backed them up when they needed it and that there was a great deal of cooperative effort among the staff members in their school.

Table 5. Public school teachers' perceptions and attitudes toward teaching, by percentage of students eligible for free or reduced-price lunch: School year 1993–94

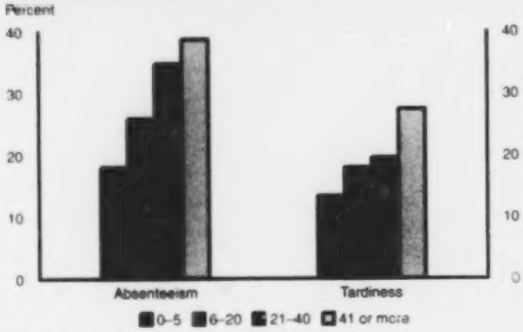
	Percentage of students eligible for free or reduced-price lunch			
Perceptions and attitudes	0–5	6–20	21–40	41 or more
Percentage of teachers who strongly agree with the following:				
My principal enforces school rules for student conduct and backs me up when I need it	43.0	44.3	48.8	46.4
There is a great deal of cooperative effort among the staff members	32.7	33.5	34.8	34.3
Necessary materials are available as needed by the staff	38.8	34.4	33.6	29.6
The level of student misbehavior in this school interferes with my teaching	8.2	10.3	13.1	18.3

SOURCE: Indicator 49, *Condition 1997*

- *Public secondary teachers in high poverty schools are more likely to report that student absenteeism and tardiness were serious problems in their schools than public secondary teachers in low poverty schools.*

An important aspect of student access to education is the amount of time students actually spend in the classroom. When students are absent from school, arrive late, or cut class, they forgo their opportunities to learn. Furthermore, when students disrupt classes by being late or absent, they interfere with lessons in progress and with other students' opportunity to learn. In the 1990–91 school year, the reported percentage of secondary students absent on a typical day was higher in high poverty public schools (10 percent) than in low poverty public schools (7 percent). Secondary teachers in high poverty schools were more than twice as likely as secondary teachers in low poverty public schools to report that student absenteeism and tardiness were serious problems in their schools (Indicator 45, *Condition 1995*).

Figure 6. Percentage of public high school teachers who reported that absenteeism or tardiness was a serious problem in their school, by percentage of students eligible for free or reduced-price lunch: School year 1993–94



SOURCE: Indicator 42, *Condition 1996*

- *Teachers in high poverty public schools are more likely than their counterparts in low poverty public schools to report that lack of parental involvement was a serious problem in their school.*

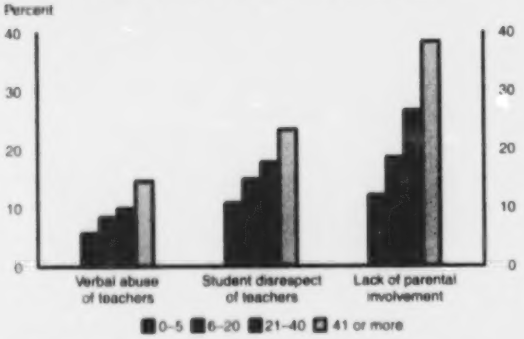
When school personnel and parents communicate, they can mutually establish a stronger learning environment for the student both at home and at school. In the 1993–94 school year, public school teachers from high poverty schools were three times more likely than their counterparts in low poverty schools to report that lack of parental involvement was a serious problem in their schools (38 compared to 12 percent).

Teachers in high poverty schools may be making less of an effort to reach out to parents, however. In 1992, parents of seniors in high poverty schools were less likely than their counterparts in low poverty schools to be contacted regarding their child's academic performance, academic program, or post-high school plans. They were also less likely to be asked to volunteer time at the school. There was no measurable difference in school-teacher contacts with parents regarding the student's attendance or behavior, however (Indicator 44, *Condition 1995*).

- *Teachers in high poverty public schools are more likely than teachers in low poverty public schools to report that verbal abuse of teachers and student disrespect of teachers were serious problems in their schools.*

Frequent negative interactions between students and teachers are an indicator of a school environment that is less conducive to learning. In the 1993–94 school year, public school teachers in high poverty schools were more than twice as likely to report that verbal abuse and student disrespect for teachers were serious problems at their school than their counterparts in low poverty schools.

Figure 7. Percentage of public school teachers who reported selected problems were serious, by percentage of students eligible for free or reduced-priced lunch: School year 1993–94



SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey, 1993–94

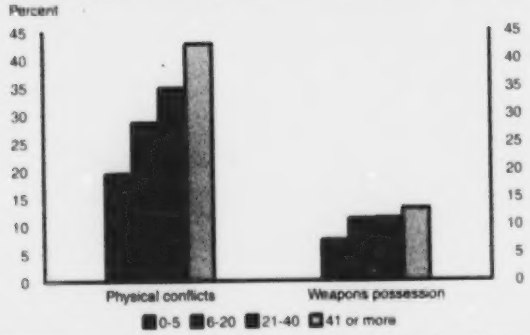
- *An increasing percentage of public school teachers report that physical conflicts and weapons possession are moderate or serious problems in their schools.*

There has been an increase in the percentage of public school teachers who, between the 1987–88 and 1993–94 school years, felt that physical conflicts and weapons possession were moderate or serious problems in their schools.[24] This concern is reflected in the views of students as well as teachers. In 1993, 50 percent of students reported using some sort of strategy to avoid harm at schools. Black and Hispanic students were more likely to have reported using such a strategy than were white students.[25]

- *Public school teachers in high poverty schools are more likely than teachers in low poverty schools to report that physical conflicts and weapons possession were moderate or serious problems in their schools.*

In the 1993–94 school year, 43 percent of public school teachers in high poverty schools reported that physical conflicts among students were a moderate or serious problem in their schools; this was more than twice the percentage of their counterparts in low poverty schools who reported that physical conflicts were a moderate or serious problem (19 percent). Thirteen percent of public school teachers in high poverty schools reported that weapons possession was a moderate or serious problem in their school, compared to 7 percent of teachers in low poverty schools.

Figure 8. Percentage of public school teachers reporting physical conflicts among students and weapons possession as a moderate or serious problem in their schools, by percentage of students eligible for free or reduced-price lunch: School year 1993–94



SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey, 1993–94.

Resource equity across high and low poverty schools

Equity concerns typically focus on the fairness of how financial and human resources are allocated across schools. Equity can be measured across several types of resources, including differences in programs and services offered, levels of teacher qualifications and experience, teacher salaries, average class size, and expenditures per student. Equity in financial and human resources between schools with high and low poverty levels is one aspect of providing equal educational opportunities to all students.

- *Fourth-graders in high poverty public schools are less likely to be in schools with gifted and talented programs or extended day programs than fourth-graders in low poverty schools.*

The programs and services that a particular school offers are a function not only of the needs of the students, but also of the resources available to that school. Differences in offerings across school poverty levels provide information as to how educational resources are being deployed.

In the 1993–94 school year, fourth-graders enrolled in low poverty public schools were more likely to have programs for the gifted and talented, diagnostic and prescriptive services, and extended day programs in their schools than fourth-graders in high poverty public schools. Fourth-graders in high poverty public schools were more likely, however, to have bilingual education programs offered in their schools than fourth-graders in low poverty schools (Indicator 41, *Condition 1995*).

Table 6. Percentage of fourth-grade students in public schools offering various programs and services, by percentage of students receiving free or reduced-price lunch: School year 1993–94

School poverty level	Bilingual education	English as a second language	Programs for the gifted and talented	Diagnostic and prescriptive services	Extended day
Total fourth-graders	**23.2**	**51.9**	**77.9**	**82.7**	**40.8**
Percentage of students receiving free or reduced-price lunch					
0–5	14.0	59.6	83.3	87.6	58.5
6–20	7.5	51.1	82.2	83.7	42.6
21–40	18.6	47.7	79.9	83.9	39.3
41 or more	36.6	53.8	74.8	80.9	38.7

SOURCE: Indicator 41, *Condition 1995*.

- *Students in mathematics classes in low poverty public secondary schools are more likely to be taught by teachers who majored or minored in mathematics than were students in high poverty public secondary schools.*

Concern about the quality of education in the United States has focused interest on teacher qualifications and student exposure to well-qualified teachers, especially in mathematics and science. Educational background is one measure of teacher qualifications. One indicator of teachers' substantive and academic qualifications is whether or not they majored or minored in the fields they teach.

The differences in teacher qualifications shown by school poverty levels are not uniform across subjects. For example, there is a 9 percentage point difference in the percentage of students taught mathematics by a teacher with a major or minor in mathematics between high and low poverty schools. There is no measurable difference in the percentage of students taught science by a teacher who majored or minored in a science subject between high and low poverty schools. Differences exist, however, within specific science subjects; students in high poverty schools were less likely than students in low poverty schools to be taught chemistry by a teacher who majored or minored in chemistry (63 and 77 percent, respectively) or to be taught physics by a teacher who majored or minored in physics (29 and 43 percent, respectively) (table 57-1).

Table 7. Percentage of public secondary mathematics and science students taught by teachers with a major or minor in the class subject, by percentage of students eligible for free or reduced-price lunch: School year 1993–94

Subject	Percentage of students eligible for free or reduced-price lunch 0–5	6–20	21–40	41 or more
Mathematics	83.3	79.7	76.1	74.1
Total science*	92.0	90.1	91.5	86.5
Biology	80.9	73.5	75.7	72.7
Chemistry	77.2	64.8	72.1	62.9
Physics	42.8	50.5	39.3	29.3

* It is easier to have majored, minored, or to have become certified in "science" than in a specific discipline, such as biology, because a teacher from any scientific field may qualify in "science," whereas qualifying in a specific discipline requires a match in class subject matter.

SOURCE: Indicator 57, *Condition 1997*.

- *Public schools with high levels of students in poverty are less likely to be connected to the Internet than schools with lower levels of student poverty.*

Access to the Internet is one indicator of a school's connection to the "Information Superhighway." In 1996, Internet access was available in about half (53 percent) of the schools in which 71 percent or more students were eligible for free or reduced-price lunch programs and in 58 percent of schools in which 31 to 70 percent of students were eligible. In comparison, 72 percent of schools with 11 to 30 percent of students who were eligible for the lunch program had Internet access, and 78 percent of those with less than 11 percent of students with free or reduced-price lunch eligibility were connected to the Internet.[26]

- *Teacher salaries are higher in low poverty public schools than they are in high poverty public schools.*

Teacher salaries are an important way for schools to attract and retain high quality teachers. In the 1993–94 school year, public school teachers in low poverty schools earned 28 percent more in total school earnings than did public school teachers in high poverty schools ($45,547 versus $35,496, respectively) (table 56-2). Teachers in high poverty schools were also less likely to be satisfied with their salaries than teachers in low poverty schools (table 49-4).

- *The average class size of public school teachers is similar across all levels of school poverty.*

Class size is a measure of the average number of students a teacher sees during a class period or school day. Smaller class sizes are valued because they may allow students to receive more individual attention from their teachers and may reduce the teacher's burden of managing large numbers of students and their work. In the 1993–94 school year, the average class size was similar in high and low poverty public schools (*Indicator 39*).

- *Relatively low wealth public school districts spend less per pupil in general and more on capital investment than do school districts with more wealth.*

Public elementary and secondary spending can be divided into three main functional areas: instruction, support services, and capital outlay. Many factors influence how school districts spend the funds that they receive, including the overall level of funding, the organizational structure of the district; district- and state-level goals; differences in student needs (e.g., demand for special education services and programs for limited-English-proficient students); and the relative cost of educational resources (e.g., teacher salaries, building maintenance, or construction cost for new schools). The distribution of expenditures across functional areas is an indication of how different public school systems allocate funds to meet their specific needs.

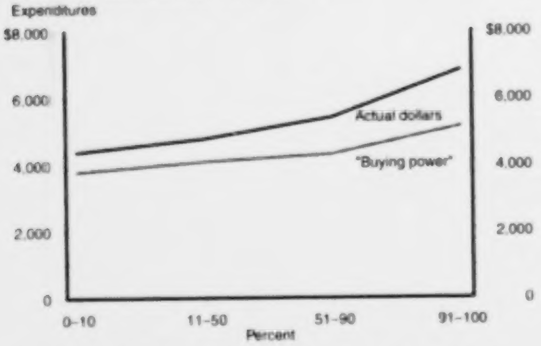
In the 1992–93 school year, relatively low wealth school districts (those with a median household income of less than $20,000) spent less per student than districts with more wealth (those with a median household income of $35,000 or more). Relatively low wealth districts also spent 31 percent less per student on capital investment ($434 per student) than relatively high wealth districts ($630 per student) (*Indicator 52*).

- *Adjusting education expenditures to reflect differences in the relative cost of providing education services reduces the spending gap between districts with high and low income households.*

"Buying power" is a concept used as an alternative measure of expenditures. Actual dollars spent per student can be adjusted to reflect differences in the cost of living and differences in the educational needs of students. The cost of living adjustment reflects the fact that a dollar spent in New York City buys substantially less in actual education resources than a dollar spent in Des Moines, Iowa. The needs adjustment takes into account expenditure differences that result from the additional resources required to provide an education to students who need special education, bilingual, and compensatory education services.[27]

Disparities in public education spending are most pronounced at the extremes of district wealth (measured by median household incomes). For example, in 1989–90, the Nation's richest school districts spent 56 percent more per student than the Nation's poorest districts. These differences in expenditures per student are reduced to 36 percent, however, when "buying power" is taken into account.[28]

Figure 9. Public education expenditures per student, by percentage distribution of median household income of households located within district boundaries: 1989–90



SOURCE: U.S. Department of Education, National Center for Education Statistics, *Do Rich and Poor Districts Spend Alike?*, 1996.

Summary

The social context of education has changed over the past few decades. The structure of families is shifting away from two biological parent families. The percentage of children from minority backgrounds is increasing, as is the percentage of children who have difficulty speaking English. Over the past 25 years, median family income has been relatively stagnant, and the poverty rate has changed very little. Black and Hispanic children remain much more likely than white children to be living in poverty, a factor associated with poor school outcomes. On the positive side, today children live in households with more educated parents than they did a few decades ago and parents' education level is a strong predictor of student achievement.

Minority students are more likely to attend schools with a high level of poverty. This is significant since in many ways the climate in high poverty schools appears to be less conducive to learning than that in low poverty schools. Similarly, high poverty schools are, on average, worse off than low poverty schools with regard to human and financial resources.

The social context in which schools operate can influence their effectiveness. Changes in social context present challenges that schools must address to enhance their effectiveness and ensure that education progress can occur.

NOTES:

[1] For a review of the research literature on education for the disadvantaged, see J. Ralph, "Improving Education for the Disadvantaged: Do We Know Whom to Help?" *Kappan* (January 1989).

[2] N. Zill, "Trends in Family Life and School Performance," Paper presented at the Annual Meeting of the American Sociological Association, Pittsburgh, August 22, 1992; and N. Zill "What We Know About the School Readiness of Young Children in the United States," Presentation, National Education Goals Panel Meeting, January 17, 1992.

[3] Ibid.

[4] A. Pallas, G. Natriello, and E. McDill, "The Changing Nature of the Disadvantaged Population: Current Dimensions and Future Trends," *Educational Researcher* (June–July 1989).

[5] James S. Coleman et al., *Equality of Educational Opportunity* Washington, D.C.: U.S. Department of Education, 1966; and Christopher Jencks et al., *Inequality: A Reassessment of the Effects of Family and Schooling in America.* New York: Basic Books, 1972.

[6] David W. Grissmer, Sheila Nataraj Kirby, Mark Berends, and Stephanie Williamson, *Student Achievement and the Changing American Family*, Santa Monica: RAND, 1994.

[7] Low income is the bottom 20 percent of all family incomes; high income is the top 20 percent of all family incomes; and middle income is the 60 percent in-between.

[8] U.S. Department of Education, National Center for Education Statistics, *Youth Indicators 1996*, Indicator 2.

[9] See the supplemental note to *Indicator 4* for a discussion of the variable "difficulty speaking English."

[10] R.B. Cairns, B.C. Cairns, and H.J. Neckerman, "Early School Dropout: Configurations and Determinants," *Child Development 60* (1989):1437–1452; R.B. Ekstrom, M.E. Goertz, J.M. Pollack, and D.A. Rock, "Who Drops Out of High School and Why? Findings from a National Study," in *School Dropouts: Patterns and Policies*, ed. G. Natriello, New York: Teachers College Press, 1989: 52–69; and R.W. Rumberger, "High School Dropouts: A Review of Issues and Evidence," *Review of Educational Research 57* (1987):101–121.

[11] For example, differences in white and Hispanic enrollment rates in center-based early childhood programs disappear once maternal education is controlled for. In addition, black children were more likely to be enrolled in center-based programs than white children once confounding variables such as family income and parents' education were held constant. See S. Hofferth, J. West, and R. Henke, *Access to Early Childhood Programs for Children at Risk*, Washington DC: U.S. Department of Education, National Center for Education Statistics, 1993.

[12] U.S. Department of Education, National Center for Education Statistics, *Youth Indicators 1996*, Indicator 16.

[13] U.S. Bureau of the Census, *Current Population Reports*, Series P60-194, *Poverty in the United States: 1995*, 1996.

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[14] For this measure, poverty is calculated as the percentage of children in families with a median family income less than 40 percent of adjusted median family income. Income includes all forms of income plus food stamps and similar benefits in other countries, minus federal income and payroll taxes. See T. Smeeding, "Why the U.S. Antipoverty System Doesn't Work Very Well," *Challenge* (January–February 1992): p. 33, table 3.

[15] A recent RAND study found that parents' education was the most important family characteristic influencing student performance. See David W. Grissmer, Sheila Nataraj Kirby, Mark Berends, and Stephanie Williamson, *Student Achievement and the Changing American Family*, Santa Monica, RAND, 1994.

[16] Ibid.

[17] Ibid.

[18] For an extensive review of the relationship between family structure and educational aptitude and achievement, see E.M. Heatherington, D.L. Featherman, and K.A. Camara, *Intellectual Functioning and Achievement of Children in One-Parent Households*, Washington D.C.: National Institute of Education, 1981.

[19] U.S. Department of Education, National Center for Education Statistics, *Youth Indicators 1996*, Indicator 11.

[20] This section has benefited from previous analysis for the report *Urban Schools: The Challenge of Location and Poverty* (NCES 96-184), by Laura Lippman, Shelley Burns, and Edith McArthur, Washington, D.C.: 1996, and updates some of the data in that report.

[21] Coleman et al. *Equality of Educational Opportunity*, 1996; and M.M. Kennedy, R. K. Jung, and M.E. Orland, *Poverty, Achievement and the Distribution of Compensatory Education Services*, Washington, D.C.: U.S. Department of Education, 1986.

[22] See J. Anderson, D. Hollinger, and J. Conaty, "Poverty and Achievement: Re-examining the Relationship Between School Poverty and Student Achievement," Paper presented at the Annual Meeting of the American Educational Research Association, 1992; D.E. Myers, *The Relationship Between School Poverty Concentration and Students' Reading and Math Achievement and Learning*, Washington, D.C.: Decision Resources, Inc., 1985; and C. Jencks and S.E. Mayer, "Social Consequences of Growing Up in a Poorer Neighborhood," In *Inner City Poverty in the U.S.*, L.E. Lynn, Jr. and M.G.H. McGeary, eds., Washington, D.C.: National Academy Press, 1990.

[23] U.S. Department of Education, National Center for Education Statistics, *Urban Schools: The Challenge of Location and Poverty* (NCES 96-184), by Laura Lippman, Shelley Burns, and Edith McArthur, Washington, D.C.: 1996, p. 7.

[24] U.S. Department of Education, National Center for Education Statistics, *How Safe are Public Schools: What Do Teachers Say?*, May 1996.

[25] U.S. Department of Education, National Center for Education Statistics, *Student Strategies to Avoid Harm at School* (NCES 95-203), by Kathryn Chandler, Mary Jo Nolin, and Elizabeth Davies, Washington D.C.: October 1995.

[26] U.S. Department of Education, National Center for Education Statistics, *Advanced Telecommunications in U.S. Public Elementary and Secondary Schools, Fall 1996* (NCES 97-944), by Sheila Heaviside, Toija Riggins, and Elizabeth Farris, Washington D.C., February 1997.

[27] U.S. Department of Education, National Center for Education Statistics, *Do Districts Enrolling High Percentages of Minority Students Spend Less?*, Washington D.C., 1996.

[28] U.S. Department of Education, National Center for Education Statistics, *Do Rich and Poor Districts Spend Alike?*, Washington D.C., 1996.

Women in Mathematics and Science

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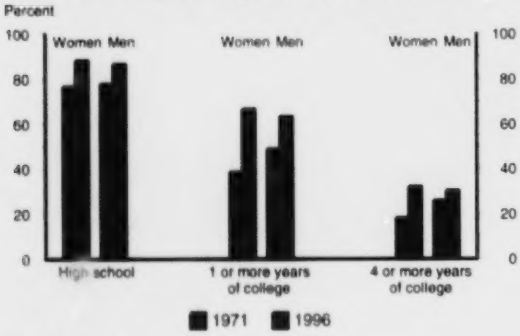
In the past two decades, women have made tremendous progress in education, putting them on par with men in many respects. The large gaps in the education levels between women and men that were evident in the early 1970s have essentially disappeared for the younger generation. For example, in 1995, women were as likely as men to attend college immediately following high school graduation (table 8-2) and in 1996, young women aged 25–29 were more likely to have completed at least some college than young men of the same age. Young women were also just as likely as young men to have completed at least a bachelor's degree.

Figure 1. Percentage of 25- to 29-year-olds who have completed selected levels of education, by sex: March 1971 and 1996



SOURCE Indicator 22, *Condition 1997*

These trends indicate that women have made important strides toward closing the educational gap between men and women. It is also important, however, to examine how women have progressed in specific areas that are important to domestic and international competitiveness. Goal Five of the National Education Goals states that "by the year 2000, U.S. students will be first in the world in mathematics and science achievement."[1] Specifically, the objectives of this goal emphasize that the number of women studying mathematics, science, and engineering should increase significantly. Including achievement in mathematics and science as one of the National Education Goals exemplifies how important these fields are to the United States and to our global competitiveness. Therefore, closing the gender gap in overall educational attainment is not considered enough; significant progress must also be made in the crucial fields of mathematics and science.

Research studies suggest that many factors contribute to the attitudes, access, and achievement of young women in mathematics and science: encouragement from parents, preparation of mathematics and science teachers, interactions between teachers and students, curriculum content, hands-on laboratory experiences, self-concept, attitudes toward mathematics, high school achievement in mathematics and science, availability of mentors, and resources available at home.[2] This essay reviews the most current data on women's progress in mathematics and science achievement, attitudes, course-taking patterns, and college majors. The final section summarizes earnings differences between women and men who majored in mathematics and science in college.

Mathematics and science achievement of male and female students

Proficiency in mathematics and science is an important outcome of education. In an increasingly technological society, the ability of workers to solve complex scientific problems and to use advanced mathematical skills are crucial components of the Nation's ability to compete in the global marketplace. Early success in mathematics and science is important, both because a firm foundation in basic principles is necessary before more complex material can be mastered and because early success can keep young people interested in these fields. The National Assessment of Educational Progress (NAEP) has assessed the knowledge of 9-, 13-, and 17-year-olds in reading, mathematics, science, and other fields for more than 20 years. Differences in the performance of both younger and older female and male students can be examined over time with these data.

- *Boys and girls have similar mathematics and science proficiency scores at age 9.*

As the mathematics proficiency of both female and male 9-year-olds has increased since the early 1970s, the gap in scores that previously favored girls has disappeared. Between 1973 and 1994, the average mathematics proficiency of both 9-year-old girls and boys increased (10 and 14 points, respectively). In 1994, there was no measurable difference in the mathematics proficiency of female and male 9-year-olds (*Indicator 18*).

Science scores of 9-year-olds declined in the 1970s, but have since improved. In 1994, 9-year-old girls scored 7 points higher on the NAEP science assessment than did their counterparts in 1970. Science proficiency was similar for 9-year-old boys and girls in 1994 (*Indicator 19*).

- *A gender gap in science proficiency scores begins to appear at age 13.*

Average scale scores on the NAEP mathematics assessment increased between 1973 and 1994 for both girls and boys at age 13 (6 and 11 points, respectively). In 1994, there was no measurable difference in the mathematics proficiency of male and female 13-year-olds.

Since 1970, 13-year-old boys have outperformed girls in science. In 1994, 13-year-old boys scored 5 scale points higher than girls of the same age. For both male and female 13-year-olds, science scores in 1994 were not different from scores in 1970 within each gender group (*Indicator 19*).

- *In general, the international pattern of gender differences in mathematics scores is less pronounced than that in science for many countries. Eighth-grade boys in most countries have higher average science scores than girls.*

The Third International Mathematics and Science Study (TIMSS) is one of the largest international comparative studies conducted by the International Association for the Evaluation of Educational Achievement (IEA). More than half a million students at five grade levels in 15,000 schools and from more than 40 countries around the world participated in this study. International comparisons from this study allow us to see whether or not differences observed across groups in the United States are unique or if they mirror differences observed in other countries. According to TIMSS, among most participating countries, the pattern of differences indicates that girls and boys either had similar average mathematics achievement scores, as was the case for the United States (*Indicator 20*). In science, for many countries, eighth-grade boys had higher average science achievement scores than did girls.

In both mathematics and science, 17-year-old females have consistently scored lower, on average, than 17-year-old males. In 1994, females scored 5 scale points lower than males on the NAEP mathematics assessment (roughly equivalent to almost one-half year of schooling), and 11 scale points lower on the science assessment (about 1 year's worth of science).

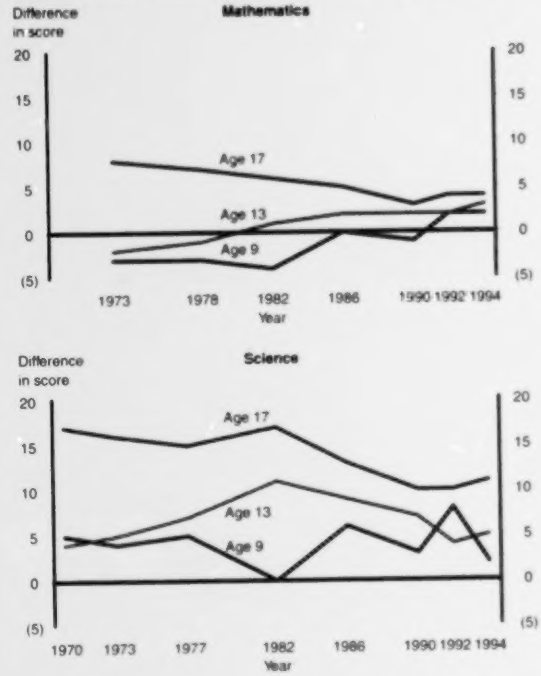


Figure 2. Trends in differences in average scales scores (scores of male minus female), by age: Selected years 1970–94

SOURCE: U.S. Department of Education, National Center for Education Statistics, *NAEP 1994 Trends in Academic Progress*, 1996.

Average mathematics proficiency scores among 17-year-old female students declined between 1973 and 1982, increased since 1982, and in 1994, the average mathematics proficiency scores of 17-year-old females were similar to their female counterparts in 1973. In 1994, the gap was not statistically different from that in 1973.

- *The gender gap in the science proficiencies of male and female 17-year-olds has narrowed over time.*

Among 17-year-old females, the 1994 average science proficiency score was lower than the 1969 score, despite improvement in average proficiency scores between 1986 and 1994. At age 17, the gap between the average science proficiency scores of males and females was generally smaller between 1986 and 1994 when compared to the gap observed before 1986. The reduction in the gap resulted from gains for female students in 1986 (7 points) and in 1990 (3 points) compared to male students (3 points in 1986 and 1 point in 1990).[3]

Recent research analyzing patterns across three nationally representative longitudinal data sets finds that young women fall behind in science before they fall behind in mathematics: Women score lower on standardized science exams by 7th grade and on mathematics exams by 10th grade.[4]

- *Men score higher than women on the SAT mathematics and science Achievement Tests, as well as on the mathematics and science Advanced Placement (AP) examinations.*

The Achievement Tests, which students can elect to take when they register for the Scholastic Assessment Test (SAT), measure knowledge in specific subject areas. The tests are designed to be independent of particular textbooks or instructional methods. Among students taking the 1991 Achievement Tests in mathematics and science, scores varied substantially by gender. On a scale of 200–800, males consistently scored higher than females in the subject areas, with differences ranging from 33 points on the biology test to 59 points on the physics test.[5]

AP examinations are administered by the College Board for high school students who are enrolled in AP courses. Approximately 15 percent of college-bound seniors elect to take at least one AP examination.[6] These examinations are graded on a scale from 1 (no recommendation for college credit) to 5 (extremely well qualified in the subject area). Test-takers scoring 3 or above on an AP examination may receive college credit or appropriate placement in that subject area. Males were more likely than females to take AP examinations in calculus, computer science, and specific science subjects, and were also more likely to score 3 or higher in these areas *(Indicator 25)*.

Table 1. Number of AP examinations taken and the number of examinations with scores of 3 or higher (per 1,000 11th- and 12th-grade students), by sex: 1995

	Male	Female
Examinations taken		
Calculus	18	16
Science	19	17
Scored 3 or higher		
Calculus	12	9
Science	13	9

SOURCE: The College Board, Advanced Placement Program, *National Summary Reports*, various years (Copyright © 1996 by the College Entrance Examination Board. All rights reserved.). U.S. Department of Commerce, Bureau of the Census, October Current Population Surveys.

Attitudes toward mathematics and science

Students' perceptions about the value of learning mathematics and science may be considered as both inputs to and outcomes of the educational process, since their attitudes toward these subjects can be related to educational achievement in ways that reinforce higher or lower performance.[7] In other words, students who do well in mathematics and science generally have more positive attitudes toward those subjects, and those who have more positive attitudes tend to be more likely to take courses in those subjects and to perform better.

In the United States, research findings are mixed concerning the grade in which boys' and girls' attitudes about mathematics and science diverge. Analyzing several nationally representative longitudinal studies, one researcher found few differences between girls and boys in their attitudes about science in the early secondary school years.[8] For example, in seventh and eighth grades, girls were no more anxious than boys about mathematics or science and were just as likely to believe that mathematics knowledge is necessary for obtaining a good job. These findings contrast with those who have found that girls' attitudes are more negative even in the early years.[9]

- *Data from the late 1980s and early 1990s indicate that 7th- and 10th-grade boys and girls are equally likely to say that they enjoy mathematics and science. Among 12th-graders, however, a gender gap emerges in science.*

Data from the Longitudinal Study of American Youth indicate that 7th- and 10th-grade boys and girls have a similar liking for mathematics and science. Among both 7th-graders in 1987–88 and 10th-graders in 1990–91, boys and girls had similar responses to questions regarding how much they liked mathematics and science in general and how much they liked the subject matter of their mathematics and science classes in particular. Among 12th-grade students in 1989–90, males were about as likely as females to agree or strongly agree that they enjoyed mathematics (57 and 52 percent, respectively), while males were more likely to agree or strongly agree that they enjoyed science (60 and 48 percent, respectively).[10]

- *While attitudes toward mathematics and science were similar between boys and girls in the United States in eighth grade, boys typically had more positive attitudes about mathematics than did girls in France, Germany, and Japan.*

Gender differences in eighth-grade students' perceptions toward mathematics and science mirrored achievement differences in TIMSS.[11] In general, eighth-grade students had positive attitudes toward mathematics, and those with more positive attitudes had higher average mathematics achievement. In many countries, including the United States, girls and boys reported similar overall attitudes about mathematics. A gender gap in attitudes about mathematics appeared in several large industrialized countries, however. For example, boys' attitudes were more positive than those of girls in France, Germany, and Japan.

Data from TIMSS also indicate that across countries, eighth-grade girls generally had lower perceptions than boys about how well they usually did in mathematics. Boys were more likely than girls to report that they usually did well in mathematics in England, France, Germany, and Japan. Self-perceptions about mathematics performance were similar between eighth-grade boys and girls in the United States, however.[12]

In TIMSS, eighth-grade students were also asked how much they liked or disliked science. In England and Japan, boys reported liking science more than girls did. The percentages of female and male eighth-graders who reported that they liked science were similar in the United States and Canada.[13]

While positive attitudes toward mathematics and science can be related to better performance and higher educational achievement, participation in activities related to these fields may also help to keep students interested in the fields of mathematics and science. There is some evidence that boys are more likely than girls to participate in mathematics- and science-related activities. For example, one researcher who used longitudinal data sets to follow students over time found that in the middle school years boys were more likely than girls to have talked to a scientist or attended a computer club, or to have used a computer for a significant amount of time during the week, or to have a computer or microscope at home. By 10th grade, boys were more likely than girls to have conducted their own science experiments, to have a computer or calculator at home, or to have used a computer more often during the week. In contrast, girls were spending more time on mathematics or science homework. Nonetheless, in the years after high school, girls were more likely than boys to have used a pocket calculator and to have used a computer terminal. This research shows that girls start out with a deficit in activities related to mathematics and science and gain some ground over time.[14]

Career expectations in science, mathematics, and engineering

Students' aspirations toward careers in mathematics and science are likely to influence both their course taking in those areas and the level of effort put forth in their coursework.

- *A gap in the career aspirations of boys and girls in science or engineering exists as early as eighth grade.*

As early as eighth grade, students have some idea about the type of work that they would like to do as adults. Among the eighth-grade class of 1988, boys were more than twice as likely as girls to aspire to be scientists or engineers (9 and 3 percent, respectively), although girls were more likely than boys to aspire to professional, business, or managerial occupations (38 and 20 percent, respectively).[15]

- *While male and female high school seniors are equally likely to expect a career in science or mathematics, male seniors are much more likely than their female counterparts to expect a career in engineering.*

Overall, few high school seniors expect to have a career in science/mathematics or engineering: About 5 percent plan to have a career in engineering, while about 1 percent plan a career in science or mathematics. Males and females are about equally likely to expect to pursue a career in science or mathematics; however, males are considerably more likely (9 percent) than their female classmates (2 percent) to anticipate a career in engineering.[16]

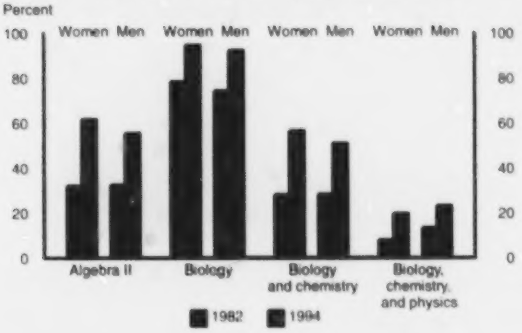
Mathematics and science course-taking patterns in high school

According to many researchers, the pool of talent from which the Nation's future scientists and engineers come is largely formed in high school. In order to adequately prepare themselves for careers in mathematics and science, students must take and excel in advanced mathematics and science courses in high school.

- *In general, female students are just as likely as male students to take advanced mathematics and science courses in high school; physics is the exception.*

For many mathematics and science subjects, gender parity had been attained by 1982, between 1982 and 1994, the percentage of both female and male graduates who took advanced mathematics and science courses in high school increased. In the class of 1994, females were more likely than males to take algebra II in high school, and were just as likely to take calculus. With respect to science, females were just as likely as males to take biology, and were more likely to take chemistry. Females have continued, however, to be less likely than males to take physics *(Indicator 24)*.

Figure 3. Percentage of high school graduates who took selected mathematics and science courses, by sex: 1982 and 1994



SOURCE: Indicator 24, *Condition 1997*.

Other research has shown that women taking mathematics courses are taught similar amounts of mathematics and receive grades that are similar to (or better than) those of their male counterparts.[17]

- *Female seniors were more likely than male seniors to say that they did not take additional mathematics because of poor performance in the subject matter.*

Almost one-third of the 1989–90 seniors who did not take mathematics or science in their last year of high school reported being advised by others that they did not need additional coursework in these subjects. Females were more likely than males to say that they had been advised against taking these courses (32 and 26 percent, respectively). Dislike of the subject matter was given as the reason for not enrolling by about 35 percent of the seniors who were not taking mathematics, while about 30 percent cited this reason for not enrolling in science. Female seniors were more likely than their male peers to say they did not take mathematics and science courses because they disliked the subject matter (35 and 22 percent, respectively). Males were slightly more likely than females to report that they did not need advanced science or mathematics courses for what they planned to do in the future. While similar proportions of males and females said they did not enroll in science because they did not do well in these courses, females were more likely than their male peers to say poor performance in the subject kept them from taking additional mathematics classes.[18]

Women in mathematics and science at the postsecondary level

Although male students' achievement in mathematics and science is higher than that of female students at the end of high school, similar high school course-taking patterns in these fields may indicate similar preparation for study in mathematics and science in college. The intended majors of first-time college freshmen provide an indication of the relative interest men and women have in mathematics and science at the postsecondary level.

- *Male first-time college freshmen were more likely to choose engineering as an intended field of study, while female first-time freshmen were more likely to choose professional fields, education, and social sciences.*

Table 2. Percentage distribution of probable fields of study among first-time college freshmen, by sex: Fall 1996

Probable major field of study	Men	Women
Arts and humanities	9.4	10.5
Biology	6.5	7.4
Business	18.1	13.8
Education	6.3	14.2
Engineering	15.2	2.6
Physical sciences[1]	2.7	2.0
Professional[2]	9.8	20.2
Social sciences	6.1	11.7
Technical	3.7	1.4
Computer sciences	4.3	1.2
Other	10.5	6.5
Undecided	7.4	8.8

[1] Includes fields such as astronomy, chemistry, earth science, mathematics, and physics.

[2] Includes fields such as architecture and health technologies.

SOURCE: Higher Education Research Institute, Graduate School of Education and Information Studies, *The American Freshman: National Norms for Fall 1996*, University of California, Los Angeles, 1996.

A 1996 study of college freshmen by the Higher Education Research Institute shows that men and women differ greatly in their intended fields of study. Of first-time freshmen in 1996, 20 percent of men and 4 percent of women planned to major in computer sciences or engineering, while similar percentages of male and female freshmen planned to major in biology or physical sciences. Female freshmen were more likely to plan to major in professional fields, education, social sciences, or humanities than their male counterparts.

The differences in the intended majors of male and female first-time freshmen directly relate to the differences in the fields in which men and women earn their degrees. The differences in degrees conferred to women and men are best illustrated by a female field concentration ratio. This ratio is calculated as the percentage of females earning degrees who majored in a specific field divided by the percentage of males earning degrees who majored in the same field. A ratio above 1.0 indicates that females are more likely than males to major in a field, and a ratio below 1.0 indicates the opposite is true.

- *At the postsecondary level, women are less likely than men to earn a degree in mathematics, physical sciences, and computer sciences and engineering. The exception is in life sciences degrees.*

Table 3. Female field concentration ratio of bachelor's degrees conferred: Academic years ending 1971, 1982 and 1994

Field of study	1971	1982	1994
Humanities	1.84	1.41	1.32
Social sciences and history	0.76	0.80	0.72
Psychology	1.04	1.99	2.27
Life sciences	**0.54**	**0.82**	**0.88**
Physical sciences*	**0.80**	**0.74**	**0.42**
Mathematics	**0.21**	**0.34**	**0.72**
Computer sciences	**0.21**	**0.53**	**0.33**
Engineering	**0.01**	**0.13**	**0.15**
Education	3.82	3.10	2.84
Business management	0.13	0.64	0.76
Health professions	4.39	5.23	3.93

*Includes fields such as physics, chemistry, astronomy, and geology.

SOURCE: U.S. Department of Education, National Center for Education Statistics, IPEDS/HEGIS surveys of degrees conferred, various years.

While earning a bachelor's degree is associated with long-term economic advantages *(Indicator 33)*, the fields in which college students choose to earn a degree also affect the career potential after graduation. More than 20 years ago, women were less likely to earn a bachelor's degree in life sciences, mathematics, physical sciences, computer sciences and engineering fields than their male counterparts. Instead, women were about four times as likely as men to earn a degree in education and the health professions. This tendency of women and men to choose different fields of study has shifted somewhat over the past 20 years. For example, differences in the proportion of women and men earning a degree in life sciences and mathematics have narrowed substantially over time. While the gap between women and men who earned a degree in computer sciences and engineering narrowed, the gap between women and men who earned a degree in physical sciences, such as physics and chemistry, increased. In 1994, women were more likely to earn a bachelor's degree in psychology, education, health sciences, and the humanities.

- *Even though men were more likely than women to earn master's degrees in science, gaps in the proportion of life sciences, physical sciences, and computer sciences and engineering degrees earned by women and men decreased somewhat in the past 20 years.*

At the master's degree level, in the past 20 years, the differences between the proportions of women and men who earned master's degrees in life sciences, physical sciences, and computer sciences and engineering have narrowed. Between 1971 and 1986, the difference in the proportions of men and women who earned master's degrees in computer sciences and engineering narrowed each year; since 1986, this difference has remained stable with men being five times more likely than women to earn a master's degree in computer sciences and engineering *(Indicator 28)*. However, the gap in the proportion of mathematics graduate degrees conferred to women and men has increased somewhat in the past 20 years. In 1994, men were twice as likely to earn a master's degree in mathematics than women.

At the doctor's degree level, women were more likely than men to earn a degree in life sciences; however, they were less likely than men to earn a degree in physical sciences, mathematics, and computer sciences and engineering, although the differences in the proportions of women and men who earned degrees in most of these fields have narrowed over time.

Table 4. Female field concentration ratio of graduate degrees conferred: Academic years ending 1971, 1982 and 1994

Field of study	1971	1982	1994
Master's degrees			
Life sciences	0.76	0.69	0.92
Physical sciences*	0.23	0.27	0.35
Mathematics	0.56	0.43	0.51
Computer sciences and engineering	0.03	0.14	0.19
Computer sciences	0.17	0.35	0.29
Engineering	0.02	0.10	0.15
Doctor's degrees			
Life sciences	1.17	0.87	1.09
Physical sciences*	0.36	0.34	0.44
Mathematics	0.50	0.33	0.45
Computer sciences and engineering	0.04	0.13	0.21
Computer sciences	0.14	0.19	0.29
Engineering	0.04	0.12	0.20

*Includes fields such as physics, chemistry, astronomy, and geology.

SOURCE: Tables 28-1 and 28-4, *Condition 1997*.

Gender differences in employment and earnings in mathematics and sciences

Although female college graduates shared in the earnings growth of all college graduates in the 1980s, they earned less on average than male college graduates. Some of the differences in salary may be related to the occupations women and men entered. Among employed recent science and engineering bachelor's degree recipients, women were less likely than men to be employed in science and engineering occupations.[19] For example, 18 percent of employed recent female science and engineering graduates were employed in science and engineering occupations in 1993, compared to 35 percent of their male counterparts.

- *The salary differential between women and men in comparable scientific jobs is still evident.*

There remains an earnings gap between men and women in comparable scientific positions. Among more experienced bachelor's and master's scientists and engineers, the gap between men's and women's salaries is larger than for recent graduates.[20] Some of the difference in salary is due to differences in the field in which they are employed. Salaries are highest in mathematics/computer science and engineering, fields in which women are not highly represented. Such factors as the number of years in the labor force, primary work activity, supervisory status, and number of people supervised also influence salaries and may account for some of the gap.

- *Among recent college graduates who majored in the natural sciences, women earned less than men did. There was no measurable difference between the starting salaries of men and women who majored in computer sciences and engineering, however.*

College graduates who majored in computer sciences and engineering had much higher starting salaries than did all college graduates. On the other hand, graduates who majored in the natural sciences or mathematics earned less than the typical graduate did. Although median starting salaries for 1993 female recent graduates were substantially lower than those of male graduates, there was no measurable difference between the starting salaries of men and women who majored in computer science and engineering. Women who majored in the natural sciences earned 15 percent less than men who majored in the same field, however (*Indicator* 34).

Table 5. Annual median starting salaries (in 1996 constant dollars) of 1993 college graduates, by major field of study

Major field of study	All graduates	Men	Women	Women's salary as a percentage of men's
Total	**$23,600**	**$26,122**	**$21,990**	*84.2
Natural sciences/ mathematics	21,833	24,226	20,508	*84.7
Computer sciences and engineering	32,046	32,385	30,155	93.1

*Male salaries significantly greater than female salaries ($p<0.05$).

SOURCE: Indicator 34, *Condition 1997*.

Summary

Women have made important advances in education over the last few decades, closing the gender gap in the level of educational attainment among younger women that existed 20 years ago. In fact, for several years, women have been awarded the majority of associate's, bachelor's, and master's degrees. However, a gender gap still exists with respect to mathematics and science, and it widens as students climb the education ladder. Although boys and girls have similar mathematics and science proficiencies at age 9, a gap begins to appear at age 13. At age 17, there is some evidence that the gender gap in mathematics and science has narrowed over time, although a substantial gap remains. Internationally, a gender gap in science is common across countries at grade 8, while it is less evident in mathematics.

Even though girls are less likely than boys to aspire to careers in science or engineering as early as grade eight, boys' and girls' attitudes toward mathematics and science appear to be similar up to grade 10 (a time when the attitudes of boys and girls have already diverged in other large industrialized countries). Among U.S. 12th-graders, however, a gender gap in attitudes is apparent in science.

The mathematics and science courses that women and men take in high school are similar, with the exception that women remain less likely than men to study physics but are more likely to take chemistry. Among students who do not take mathematics or science in their senior year, women are more likely than men to say that they did so either because others advised them that they did not need those courses or because they disliked the subject matter.

While women are just as likely as men to go to college immediately after high school, from the start they are less interested in majoring in mathematics and science. Although women tend to major in different subjects than men in college, some of these differences have narrowed over time. The mathematics and science fields continue to be areas where the gender gap remains large. Women are far less likely than men to earn bachelor's degrees in computer science, engineering, physical sciences, or mathematics.

Even though women make up about half of the labor market, they are both underrepresented in jobs in scientific fields and are paid less than men. Some of these differences can be explained by differences in the field chosen, level of experience, and level of education. Overall, there are still substantial differences between women and men in mathematics and science fields, and these differences appear as early as middle school.

NOTES:

[1] National Education Goals Panel, *The National Education Goals Report: Building a Nation of Learners, 1996*, Washington, D.C.: 1996.

[2] For a review of the literature relating to the mathematics and science "pipeline," see Sandra L. Hanson, *Lost Talent, Women in the Sciences*, Philadelphia: Temple University Press, 1996.

[3] U.S. Department of Education, National Center for Education Statistics, *NAEP 1994 Trends in Academic Progress*, Washington, D.C.: 1996, p. 14.

[4] Sandra L. Hanson, *Lost Talent, Women in the Sciences*, 1996.

[5] Michael C. Matti and Iris R. Weiss, *Science and Mathematics Education Briefing Book, Volume IV*, Arlington, VA: National Science Teachers Association, 1994, p. 130.

[6] Ibid.

[7] A. Beaton et al., *Mathematics Achievement in the Middle School Years: IEA's Third International Mathematics and Science Study*, Boston: Center for the Study of Testing, Evaluation, and Educational Policy, Boston College, 1996.

[8] Sandra L. Hanson, *Lost Talent, Women in the Sciences*, 1996.

[9] M. Linn, and J. Hyde, "Gender, Mathematics, and Science," *Educational Researcher, 18*: 17-19, 22, 27; and J. A. Dossey, I. V. S. Mullis, M. M. Lindquist, and D. L. Chambers, *The Mathematics Report Card: Are We Measuring Up?*, Princeton, NJ: Educational Testing Service, 1988.

[10] Michael C. Matti and Iris R. Weiss, *Science and Mathematics Education Briefing Book, Volume IV*, Arlington, VA: National Science Teachers Association, 1994, tables 36 and 37; and A. Beaton et al., *Mathematics Achievement*, 1996, figure 4.2.

[11] In TIMSS, students were asked to state their level of agreement with the following four statements: 1) I would like a job that involved using mathematics; 2) Mathematics is important to everyone's life; 3) Mathematics is boring; and 4) I enjoy learning mathematics. TIMSS researchers averaged the results across these questions with students' responses to questions about liking mathematics in general in order to form an index of their overall attitudes toward mathematics.

[12] A. Beaton et al., *Mathematics Achievement*, 1996, figure 4.2.

[13] A. Beaton et al., *Science Achievement in the Middle School Years: IEA's Third International Mathematics and Science Study*, Boston: Center for the Study of Testing, Evaluation, and Educational Policy, Boston College, 1996, figure 4.3.

[14] Sandra L. Hanson, *Lost Talent, Women in the Sciences*, 1996, pp.175–176.

[15] U.S. Department of Education, National Center for Education Statistics, A *Profile of the American Eighth-Grader: NELS:88 Student Descriptive Summary*, Washington D.C.: 1990, table 4.6.

[16] Division of Research, Evaluation, and Dissemination, Directorate for Education and Human Resources, *Indicators of Science and Mathematics Education*, Washington, D.C.: National Science Foundation, 1993.

[17] See S.L. Hanson, M. Schaub, and D.P. Baker, "Gender Stratification in the Science Pipeline: A Comparative Analysis of Seven Countries," *Gender and Society* 10 (3): 271–290; D. P. Baker and D. P. Jones, "Creating Gender Equality: Cross-National Stratification and Mathematical Performance," *Sociology of Education 66*: 91–103; and G. DeBoer, "A Study of Gender Effects in the Science and Mathematics Course-Taking Behavior of a Group of Students Who Graduated from College in the Late 1970s," *Journal of Research in Science Teaching* 21:95–103.

[18] Micheal C. Matti and Iris R. Weiss, *Science and Mathematics Education Briefing Book, Volume IV*, Arlington, VA: National Science Teacher's Association, 1994, p. 158.

[19] National Science Foundation, *Women, Minorities and Persons with Disabilities in Science and Engineering: 1996*, Washington, D.C., 1996, appendix table 5-8.

[20] Ibid., appendix table 5-31.

Public and Private Schools: How Do They Differ?

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About 46 million students are currently enrolled in the Nation's public schools in kindergarten through grade 12, and another 6 million are enrolled in private schools (*Indicator 44*). Because private schools are often perceived to be more successful in teaching students. with at least some empirical basis,[1] many reform proposals for public schools have looked to the private sector for models to emulate. School choice, small schools, and decentralized decision making, for example, are among the features commonly associated with private education that many have suggested might benefit public schools.

Exactly how do public and private schools differ? To address this question, at least in the aggregate, national data are assembled here to compare public and private schools along a number of important dimensions. The discussion begins with an examination of two fundamental differences between public and private schools: their sources of support and the role of choice in determining where students go to school. Next is a description of the characteristics of the key participants in the education process—students and teachers—and how they differ in the public and private sectors. Following that is a comparison of selected aspects of the organization and management of public and private schools, including school and class size and who makes policy decisions for the school and classroom. Next, the varying circumstances under which teaching and learning take place in public and private schools (the school climate) are examined. The final sections describe differences in academic programs and support services.

The data show many systematic differences between public and private schools, and provide a context in which to consider the debates about the relative merits of various aspects of public and private schooling. However, as public and private schools are compared, it is important to keep in mind the enormous variation that exists within each sector and the overlap between the two. As Baker, Han, and Keil point out in their examination of organizational differences between public and private secondary schools, "School sector is not a *simple organizational fault line* running through the Nation's schools."[2] More detail on the nature of the diversity that exists within each sector can be found in other NCES publications.[3]

Sources of support

The defining distinction between public and private schools is their different sources of support. Public schools depend primarily on local, state, and federal government funds, while private schools are usually supported by tuition payments and sometimes by funds from other nonpublic sources such as religious organizations, endowments, grants, and charitable donations. In some states, private schools receive public funds for certain services (e.g., transportation).

Tuition at private schools varies considerably by grade level and whether or not the school has a religious affiliation. In 1993–94, the average tuition paid by private school students was about $3,100, but ranged from a low of about $1,600 in Catholic elementary schools to a high of about $9,500 in nonsectarian secondary schools. Total public school expenditures were about $6,500 per pupil (computed using average daily attendance) in 1993–94,[4] but it is impossible to compare public and private school expenditures because tuition often covers only part of the total spent.

Table 1. Average private school tuition:* 1993–94

School level	Total	Catholic	Other religious	Nonsectarian
Total	**$3,116**	**$2,178**	**$2,915**	**$6,631**
Elementary	2,138	1,628	2,606	4,693
Secondary	4,578	3,643	5,261	9,525
Combined	4,266	4,153	2,831	7,056

* Tuition weighted by the number of students enrolled in schools.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Digest of Education Statistics 1996*, table 60.

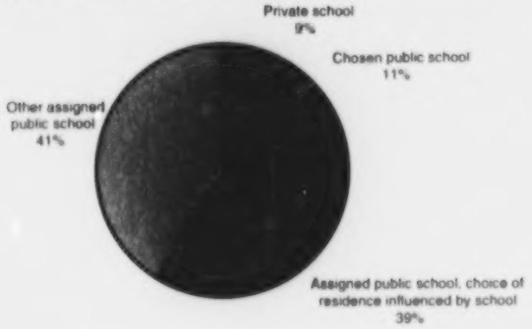
School choice

The idea of school choice has traditionally been associated with private schools, but many advocate offering at least some choice within the public sector. Having public schools compete for students, the thinking goes, will provide them with a strong incentive to improve and be more responsive to the needs and concerns of students and their parents.

- *Private schools are attended by choice, but choice is not limited to the private sector.*

Private schools provide an alternative for parents who are dissatisfied with public schools or have other reasons for wanting their children to attend a private school. Within the private sector, parents can choose among a range of religiously affiliated and nonsectarian schools (as long as they can afford the tuition charged or receive financial aid). Some private schools are very selective in their admissions, while others are not. In 1993, 9 percent of all students in grades 3–12 attended a private school.

Figure 1. Percentage distribution of students in grades 3–12, by parental choice of school attended: 1993



SOURCE: Indicator 4, *Condition 1996*

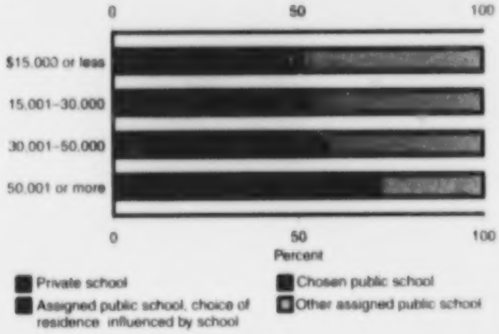
Parents of students in public schools can sometimes choose or exert influence over which schools their children attend. In 1993, 11 percent of students in grades 3–12 attended a public school chosen by their parents. In addition, parents can indirectly choose among public schools for their children to the extent that they can choose where to live. While 80 percent of public school students in grades 3–12 attended an assigned public school in 1993, the parents of 39 percent of the students in these grades indicated that their child attended an assigned school but that their choice of residence was influenced by where their children would go to school. Thus, less than half (41 percent) of the students in grades 3–12 attended assigned public schools over which their parents had exercised no direct or indirect choice.

- *Families with annual incomes over $50,000 have the most choice.*

Higher family income facilitates both public and private school choice. Because most private schools charge tuition, only parents with the personal financial resources or financial aid to afford the tuition truly have the option of selecting a private school. Thus, the rate of private school attendance in 1993 increased with family income. Similarly, because the housing options that realistically can be considered are related to a family's income, the percentage of parents who reported that their choice of residence was influenced by where their children would go to school also generally increased with family income.

Children from the lowest income families (less than $15,000) were more likely than those from families with incomes over $30,000 to attend a chosen public school. However, the net result of the various types of choice was that children from families with incomes over $50,000 were much less likely than children from families in lower income categories to attend an assigned public school over which they had not exercised any choice.

Figure 2. Percentage distribution of students in grades 3–12, by parental choice of school attended and income: 1993



SOURCE: Indicator 4, *Condition 1996*

- *Parents who exercise some choice over where their children go to school tend to be more satisfied than those who have not.*

Parents of students in grades 3–12 who attended private schools were more likely than their public school counterparts to be very satisfied with their children's school overall and with its specific aspects, such as the teachers, academic standards, and discipline. Within the public sector, parents whose children attended a chosen public school were generally more satisfied than those whose children were in an assigned school. Furthermore, among those whose children attended assigned public schools, parents whose choice of residence was school related were more satisfied than those who did not choose their residence for this reason. Parents whose children attended chosen public schools and those whose choice of residence was school related were about equally likely to be very satisfied with their children's schools.

Table 2. Percentage of parents of students in grades 3–12 who were very satisfied with aspects of their child's school: 1993

School attended	School	Teachers	Academic standards	Discipline policy
Chosen school	70.7	67.6	72.1	72.6
Public	61.2	61.5	63.0	63.0
Private	82.5	75.2	83.4	84.4
Assigned public school	52.3	56.0	55.0	55.1
Influenced choice of residence	56.0	58.9	59.3	58.2
Other	48.7	53.1	51.0	52.2

SOURCE: Table 4-4, *Condition 1996*

Students

Many of the ways in which public and private schools differ reflect differences in their student populations. Students bring with them to school certain background characteristics such as their racial/ethnic and linguistic backgrounds and sometimes, personal or family problems that affect their ability to learn. Teachers and administrators take these characteristics into account as they organize and manage their schools and plan and implement curriculum and support services. Thus, to the extent that public and private school students differ, one can expect public and private schools to differ as well. Other student characteristics, such as attitudes toward learning and behavior toward teachers, are also taken into account; however, because these are determined by the school environment as well as students' backgrounds, they are discussed below in the section on school climate.

- *Public schools tend to have more racially and ethnically diverse student populations.*

Table 3. Percentage of students in grades 1–12 who were black or Hispanic: 1985, 1990, and 1993

	Public				
Year	Total	Central cities	Other metropolitan	Nonmetropolitan	Private
1985	26.8	56.7	18.1	16.8	11.5
1990	27.8	52.1	19.5	16.4	14.3
1993	28.4	53.8	20.2	16.0	16.7

SOURCE: Table 40-1, *Condition 1995*

Racial and ethnic diversity can enrich the school experiences of students and teachers in many ways. However, a heterogeneous school population creates additional challenges for school teachers and administrators, who must be sensitive to different cultural backgrounds and the interactions among individuals (students and teachers) from different backgrounds. In 1993, 28 percent of public school students in grades 1–12 were black or Hispanic, compared to 17 percent of those in private schools. Private schools are changing, however, as evidenced by the increase in the percentage of black and Hispanic students between 1985 and 1993.

- *Public schools have more students with limited English proficiency.*

Students with limited English proficiency create demands on school resources and needs for teacher training that are absent in schools without such students. In 1993–94, 5 percent of all public school students (and 9 percent in central cities) had limited English proficiency, compared to 1 percent of private school students.[5]

- *Personal problems that interfere with learning are more of a problem in public schools.*

When students bring to school personal problems such as those associated with alcohol use, drug abuse, and poverty, both teaching and learning can be seriously compromised. In all types of communities, public school teachers were much more likely than private school teachers to believe that each of these problems was serious in their schools.

Table 4. Percentage of secondary school teachers who reported that various problems were serious in their schools: 1993–94

	Public			Private		
Student problems	Central city	Urban fringe	Rural	Central city	Urban fringe	Rural
Use of alcohol	19.6	21.7	26.3	12.4	9.4	10.5
Drug abuse	17.1	14.8	12.1	5.1	2.8	3.7
Poverty	24.8	9.6	15.3	3.6	2.5	3.7

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Schools and Staffing in the United States: A Statistical Profile, 1993–94*, pp. 112–113.

Teachers

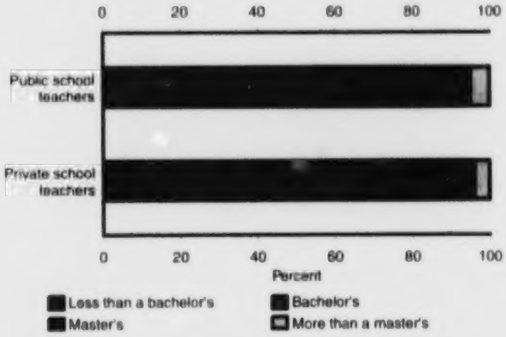
Because of the central role teachers play in the educational process, differences between public and private school teachers are an important dimension in which to compare public and private schools. In the aggregate, public and private school teachers come from different racial/ethnic backgrounds, have different qualifications to teach, and are compensated differently.

- *Private schools have fewer minority teachers and principals.*

In public schools, an average of 12 percent of the teachers and 16 percent of the principals were minorities. The percentages were lower in private schools (9 percent minority teachers and 8 percent minority principals). The benefits of having minority teachers as role models have been widely discussed.[6] Nevertheless, 42 percent of public schools and 66 percent of private schools had no minority teachers in 1993–94.[7]

- *On certain measures, public school teachers appear to be more qualified than their private school counterparts.*

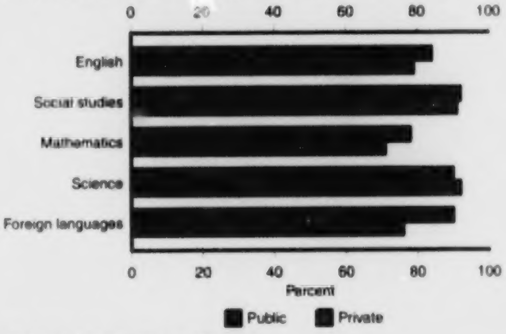
Figure 3. Percentage distribution of public and private school teachers according to highest degree earned: 1993–94



SOURCE: U.S. Department of Education, National Center for Education Statistics, *Schools and Staffing in the United States: A Statistical Profile, 1993–94*, p.40.

Although many aspects of teacher qualifications are difficult to measure, public school teachers appear to be more qualified than private school teachers in terms of their education and years of teaching experience. In the 1993–94 school year, public school teachers were more likely than private school teachers to have earned a master's degree (42 versus 30 percent).

Figure 4. Percentage of secondary students in selected subjects taught by teachers who majored or minored in the subject as undergraduates, by control of school: 1993–94



SOURCE: Indicator 57, *Condition 1996*.

In addition, at the secondary level, students in public schools were more likely than those in private schools to be taught English, mathematics, or a foreign language by teachers who majored or minored in the subject as undergraduates. Public school teachers in 1993–94 had more teaching experience, on average, than private school teachers (15 versus 12 years).[8]

Public school teachers were also more likely to participate in professional development activities, which many believe teachers should do throughout their careers to update and improve their teaching skills. Beginning teachers in public schools (those in their first 3 years of teaching) were much more likely than their private school counterparts to participate in a formal teacher induction program (56 versus 29 percent).[9] However, induction may be done informally in some schools. Full-time public school teachers were more likely than their private school counterparts to participate in in-service education or professional development on the uses of educational technology for instruction, methods of teaching in a specific subject field, in-depth study in a specific field, student assessment, and cooperative learning in the classroom.

Table 5. Percentage of full-time public and private school teachers who participated in certain professional development activities during the 1993–94 school year

Professional development topic	Public	Private
Uses of educational technology for instruction	50.1	34.3
Methods of teaching in specific subject field	64.4	59.8
In-depth study in specific field	30.1	25.9
Student assessment	52.0	40.4
Cooperative learning in the classroom	51.5	43.6

SOURCE: Indicator 40, *Condition 1997*.

- *On average, public school teachers receive higher salaries and more benefits.*

In 1993–94, the average base salary was $34,200 for public school teachers, and $22,000 for private school teachers. Among public districts and private schools with salary schedules, the averages for the highest steps on the schedules were $40,500 and $27,300, respectively.[10] The difference between principals' salaries was also large, with public school principals earning an average of $54,900 compared to an average of $32,000 for private school principals. Public school teachers were more likely than private school teachers to be provided with medical insurance (87 versus 60 percent), dental insurance (66 versus 36 percent), group life insurance (61 versus 36 percent), and pension contributions (63 versus 47 percent). One substantial benefit that private school teachers sometimes received (15 percent) was tuition for their children.[11]

- *Teacher attrition is higher in private schools, but private school teachers are more satisfied with their working conditions.*

Teacher attrition tends to be higher in private than public schools: Between the 1993–94 and 1994–95 school years, 10 percent of full-time private school teachers left teaching, compared to 6 percent of their public school counterparts (*Indicator 58*). Nevertheless, private school teachers were more likely than public school teachers to be highly satisfied with their working conditions (36 versus 11 percent).[12]

School organization and management

Many school reform efforts have focused on the organization and management of schools in the search for ways to increase school effectiveness. Public and private schools, in the aggregate, are organized differently in terms of school and class size and the locus of responsibility for decision making in a number of important policy areas.

School size

The relative merits of various school sizes have been studied extensively as researchers have searched for the ideal school size.[13] Smaller schools are generally thought to be easier to manage and to promote a greater sense of community among both students and teachers; however, larger schools (within limits) are often more equipped to offer a wider range of academic programs and support services. The advantages of larger schools are more relevant to secondary than elementary schools.

- *Public schools tend to have larger enrollments.*

Table 6. Average school size: 1993–94

Level and urbanicity	Public	Private
Total	**516**	**191**
Elementary		
Central city	547	210
Urban fringe/large town	524	201
Rural/small town	378	112
Secondary		
Central city	1,083	398
Urban fringe/large town	973	308
Rural/small town	468	183

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Schools and Staffing in the United States: A Statistical Profile, 1993–94*, p. 23.

In the 1993–94 school year, public schools were at least twice the size of private schools, on average. This relationship held across schools in different types of communities at both the elementary and secondary levels.

Class size

Small classes allow teachers to give students more individual attention and lighten the teacher's workload and therefore are generally considered desirable,[14] although research on the relationship between outcomes and class size has not been conclusive. Despite the advantages they may have, small class sizes are also expensive, and invoke trade-offs between small class size and other uses of school resources.

- *Average class size is larger in public schools.*

At both the elementary and secondary levels, private schools, on average, have smaller classes. In the 1993–94 school year, the average class size was 24 in both elementary and secondary public schools, compared to 22 in private elementary schools and 19 in private secondary schools (*Indicator 39*).

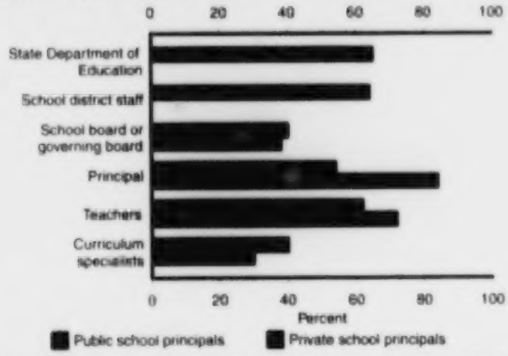
Decision making for the school and classroom

A key aspect of school management is where important decisions are made concerning curriculum, school policies, and classroom practices. While public schools necessarily must take some direction from State Departments of Education, local school boards, and district staff, more site-based management and local decision making are frequently advocated as a means of improving school effectiveness.[15]

- *Private school principals (or heads) report having more influence over curriculum than their public school counterparts.*

When principals were asked to rate the influence of various groups on establishing curriculum in 1993–94, private school principals were more likely to report that they, rather than any other group, had a great deal of influence. Public school principals, on the other hand, attributed more influence to the State Department of Education, school district staff (which private schools do not have), and even to teachers than to themselves.

Figure 5. Percentage of principals who thought that various groups had a great deal of influence over curriculum decisions, by control of school: 1993–94



SOURCE: U.S. Department of Education, National Center for Education Statistics, *Schools and Staffing in the United States: A Statistical Profile, 1993–94*, pp. 116–117.

- *In a number of school policy areas, private school teachers and principals are more likely than their public school counterparts to believe that they have a great deal of influence.*

In the areas of setting discipline policy and establishing curriculum, in particular, private school teachers in the 1993–94 school year were considerably more likely than public school teachers to think that they had a great deal of influence. Only a relatively small percentage of teachers in either sector were likely to think that they had a great deal of influence over certain other important policy areas, such as making budget decisions, hiring, and evaluating teachers.

Table 7. Percentage of teachers and principals who thought that they had a great deal of influence* over certain school policies: 1993–94

	Teachers		Principals	
Policy area	Public	Private	Public	Private
Setting discipline policy	34.9	59.2	86.9	95.0
Establishing curriculum	34.3	55.7	53.9	84.1
In-service training content	30.6	35.3	72.4	88.4
School budget decisions	10.1	6.2	63.5	84.3
Hiring full-time teachers	8.1	8.4	84.6	90.9
Teacher evaluation	2.7	8.5	94.5	94.6

* Responded 4 or 5 on a scale of 0–5.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Schools and Staffing in the United States: A Statistical Profile, 1993–94*, pp. 118–119 and 120–121.

In the area of teacher evaluation, almost all principals, public or private, thought that they had a great deal of influence. However, in a number of other policy areas—discipline, curriculum, in-service training, budgeting, and hiring—private school principals were more likely than public school principals to think that they had a great deal of influence. Public school principals share authority for many policy decisions with school boards, district personnel, and State Departments of Education.

- *Private school teachers reported having more autonomy in the classroom.*

Table 8. Percentage of teachers who thought that they had a good deal of control* over classroom practices: 1993–94

Classroom practice	Public	Private
Evaluating and grading students	86.9	91.6
Determining amount of homework	86.7	87.4
Selecting teaching techniques	86.4	91.6
Disciplining students	69.0	84.3
Selecting content, topics, skills to be taught	60.5	74.6
Selecting textbooks and other materials	55.5	67.9

* Responded 4 or 5 on a scale of 0–5.

SOURCE: Indicator 41, *Condition 1997*.

In both public and private schools, the vast majority of teachers thought that they had a good deal of control over certain classroom practices: evaluating and grading students, determining the amount of homework, and selecting teaching techniques. Relatively fewer in each sector thought that they had a good deal of control over disciplining students; selecting the content, topics, and skills to be taught; or selecting textbooks and other instructional materials. Except in the area of determining the amount of homework, private school teachers were more likely than public school teachers to think that they had a good deal of control.

School climate

School climate can significantly affect the quality of the educational experience for students, teachers, and other staff as well as parents' satisfaction with their child's school. Neither teachers nor students can perform at their best if their school is unsafe or disrupted by misbehaving students or if there is a lack of cooperation among teachers or between the school and parents. The National Education Goals for the year 2000 call for schools that "will be free of drugs, violence, and unauthorized presence of firearms and alcohol and will offer a disciplined environment conducive to learning." The Goals also call for increased "parental involvement and participation in promoting the social, emotional, and academic growth of children."[16]

- *Exposure to crime or threats is far more common in public schools.*

Table 9. Percentage of students in grades 6–12 who reported knowing about, witnessing, worrying about, or being victimized by robbery, bullying, or physical attack at school: 1993

	Public		
Robbery, bullying, or physical attack	Assigned	Chosen	Private
Knowledge of occurrence	73.0	71.0	45.0
Witnessed	58.0	54.0	32.0
Worried about	26.0	27.0	13.0
Victimized	12.0	10.0	7.0

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Student Victimization at School*, NCES 95-204, 1995.

To learn effectively, students must feel safe at school. The learning environment in schools where students have to worry about being threatened or becoming victims of crime may be seriously compromised. Crime occurs in and around both public and private schools, but public school students have a much greater exposure to crime. The percentages of students in grades 6–12 who knew about, witnessed, or worried about being a victim of bullying, physical attack, or robbery were much greater in both assigned and chosen public schools than in private schools. In addition, students in assigned public schools were more likely than private school students to report being victimized personally.

- *Public school teachers are far more likely to believe that certain negative student attitudes and behavior are serious problems in their schools.*

Table 10. Percentage of teachers who perceived various problems as serious in their schools: 1993–94

	Public		Private	
Problems	All	Central city secondary schools	All	Central city secondary schools
Attitudes toward learning				
Come unprepared to learn	28.8	46.6	4.1	7.3
Apathy	23.6	46.4	4.5	10.7
Absenteeism	14.4	41.9	2.2	4.4
Tardiness	10.5	30.1	2.6	3.7
Interactions with teachers				
Verbal abuse of teachers	11.1	22.6	2.3	2.9
Disrespect for teachers	18.5	32.5	3.4	5.4

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Schools and Staffing in the United States: A Statistical Profile, 1993–94*, pp. 112–113.

In the 1993–94 school year, teachers were asked to report their perceptions of the seriousness of various problems in their schools, and their responses suggest that there are different climates in public and private schools. Teachers in public schools were far more likely to report that poor attitudes toward learning and negative interactions with teachers were serious problems in their schools. The contrast between the perceptions of public and private school teachers was particularly striking in central city secondary schools.

- *Public school teachers are more likely to believe that a lack of parent involvement is a serious problem in their school.*

Communication between parents and school personnel promotes a spirit of home-school cooperation, which is important to student success. Public school teachers were much more likely than private school teachers to believe that a lack of parental involvement was a serious problem in their school (28 versus 4 percent).[17]

The nature of the contact between schools and parents tends to differ in public and private schools. For example, high school seniors in private schools were more likely than their public school peers to have their parents contacted about volunteering their time at school or about the student's post-high school plans, while seniors in public schools were more likely to have their parents contacted about their school attendance.

Table 11. Percentage of seniors whose parents reported that school personnel had contacted them at least once during the current school year: 1992

Reason for contact	Public	Catholic	Other private
Discussion of student's:			
Academic performance	52.5	48.5	60.8
Academic program	42.9	46.1	59.0
Post-high school plans	34.9	50.0	69.1
Attendance	38.7	17.5	25.7
Behavior	20.5	14.6	18.5
Request parent to volunteer time at school	51.9	82.9	86.2
Inform parent how to help student with school work	21.5	29.3	31.8

SOURCE: Indicator 44, *Condition 1995*.

- *Private school teachers share a greater sense of community within their schools.*

When teachers in a school share a strong sense of community, they are likely to be more effective instructors and more satisfied with their working conditions.[18] In the 1993–94 school year, private school teachers in both large and small schools were more likely than public school teachers to report that they and their colleagues shared goals, beliefs, and expectations (and that the goals and priorities for the school were clear); that they were recognized for good work; that teachers participated in most of the important decisions in their schools; that the staff cooperated; and that the administration was supportive and encouraging.

Table 12. Percentages of teachers who strongly agreed with items related to their sense of community at work: 1993–94

	Public		Private	
Sense of community	Less than 150 students	750 or more students	Less than 150 students	750 or more students
Goals, beliefs, and expectations				
Colleagues share beliefs and values about central mission of school	40.8	26.2	71.4	49.4
Goals and priorities for school are clear	36.0	33.1	61.7	56.3
Governance procedures				
Staff members are recognized for good work	23.5	22.1	48.1	34.7
Teachers participate in most of the important educational decisions	23.7	10.1	38.0	22.6
Collegiality and cooperation				
Great deal of cooperative effort among staff	41.5	25.9	65.3	46.4
Administration's behavior is supportive and encouraging	42.0	38.5	65.1	57.0

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Teachers' Sense of Community: How Do Public and Private Schools Compare?*, IB-10-96, 1996.

Academic programs

A major thrust of school reform efforts begun in the 1980s has been setting higher academic standards for elementary and secondary school students. One of the National Education Goals for the year 2000 is to have all students be able to demonstrate in grades 4, 8, and 12 "competency over challenging subject matter" in a range of subjects, including reading, mathematics, science, and social studies.

Elementary schools

Key aspects of the instructional program at the elementary level are the amount of time spent on core subjects, the teaching methods used in the classroom, and how homework is handled. Public and private schools exhibit both similarities and differences in these areas.

- *Elementary public school teachers spend more time than private school teachers on core subjects.*

In the 1993–94 school year, public elementary teachers in self-contained classrooms spent more time than their private school counterparts teaching each of the four core subjects—English, mathematics, social studies, and science—and more time on all four together. Public elementary teachers spent an average of about 22 hours per week teaching the four core subjects, and private school teachers spent about 3 hours less. Teachers in both sectors divided their time among these subjects in approximately the same way. That is, they spent about half of the time teaching English, the next most time on mathematics, then social studies, and science.

Table 13. Average hours per week elementary school teachers spent teaching core subjects: 1993–94

Subject	Public	Private
Total	**21.5**	**18.1**
English	10.3	8.5
Mathematics	5.2	4.5
Social studies	3.1	2.7
Science	3.0	2.4

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Schools and Staffing in the United States: A Statistical Profile, 1993–94*, pp. 76–77.

Elementary school students in public and private schools spent virtually identical amounts of time in school (6.4 hours per day and 179 hours per year), which implies that private school elementary teachers allocate more time than public school teachers to non-core subjects such as music, art, physical education, and, sometimes, religion (Indicator 49, *Condition 1993*).

- *Elementary teachers in public and private schools use similar teaching methods.*

When asked if they used certain instructional strategies at least once a week during the 1993–94 school year, 90 percent or more of the elementary teachers in both sectors said that they provided instruction to the class as a whole, demonstrated concepts using the board or an overhead projector, worked with individual students, and worked with small groups of students (*Indicator 37*). Among less commonly used practices, public school teachers were more likely than private school teachers to demonstrate a concept using a computer, videotape, or other electronic medium (75 versus 57 percent), while private school teachers were more likely than public school teachers to lecture (78 versus 69 percent).

- *Private elementary teachers handle homework differently than public elementary teachers.*

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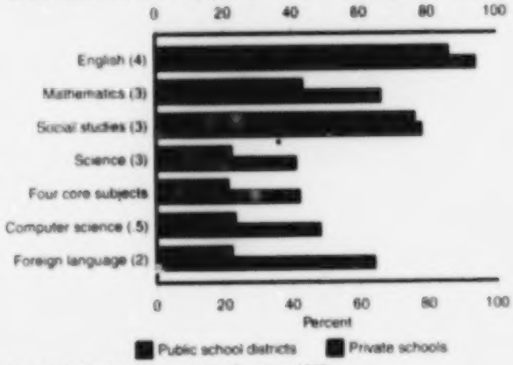
Almost all elementary school teachers (94 percent of public school teachers and 98 percent of private school teachers) reported that their students did some homework during an average week in 1993–94 (*Indicator 36*). Forty-six percent of public school teachers and 40 percent of private school teachers assigned 1 hour or less per week. Although the focus is often on how much homework is assigned, how teachers use homework assignments may be more important than quantity. For example, some argue that homework is most useful to students if teachers collect, correct, and return their assignments. At the elementary level, private school teachers were more likely than their public school counterparts to do this (82 versus 72 percent).

High school academic programs

In 1983, the National Commission on Education and the Economy (NCEE) proposed in *A Nation at Risk* that all high school graduates be required to complete at least 4 years of English; 3 years each of social studies, science, and mathematics; and .5 years of computer science. This has become a standard against which high school programs are evaluated.

- *Private high schools appear to have more rigorous academic programs.*

Figure 6. Percentage of high school students in public districts or private schools with course graduation requirements at/above the NCEE recommendations, by subject and control of school: 1990–91

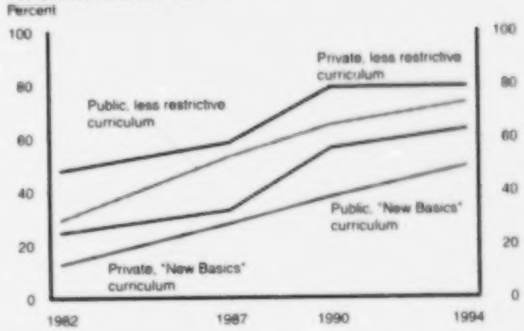


SOURCE: Tables 24-5 and 24-6, *Condition 1995*.

Except in social studies, greater percentages of private than public high school students attended schools with graduation requirements at or above the NCEE recommendations in 1990–91. In addition, private school students were much more likely than their public school peers to be required to take 2 years of a foreign language.

In both sectors, a greater percentage of high school graduates earned the minimum number of units specified in the "New Basics" curriculum (4 years of English, and 3 years each of social studies, science, and mathematics) in 1994 than in 1982. Although the percentage meeting this standard is still higher for private school graduates, the two sectors are now similar when a less restrictive curriculum (one less year each of science and mathematics) is used as the standard (Indicator 28 and table 28-1, *Condition 1996*).

Figure 7. Percentage of high school graduates earning a minimum number of units in core courses, by curriculum type and sector: 1982, 1987, 1990, and 1994



SOURCE: Table 28-1, *Condition 1996*

- *Graduates of private high schools are much more likely to have taken advanced mathematics and science courses.*

In both 1982 and 1994, virtually all graduates of either public or private high schools earned some credits in mathematics and science. However, in both years, graduates of private high schools were more likely than their public school counterparts to take advanced mathematics courses such as algebra II, trigonometry, analysis/pre-calculus, and calculus; courses in biology, chemistry, and physics; and courses in all three of the major sciences (biology, chemistry, and physics). The percentages of students taking these courses increased between 1982 and 1994 for public high school graduates in all of these subjects and for private high school graduates in most of them.

Table 14. Percentage of high school graduates taking selected mathematics and science courses in high school: 1982 and 1994

	1982		1994	
Courses (credits)	Public	Private	Public	Private
Any mathematics	**98.4**	**99.8**	**99.5**	**99.9**
Algebra II (0.5)	29.7	52.8	56.4	81.8
Trigonometry (0.5)	11.0	21.4	16.2	29.5
Analysis/pre-calculus (0.5)	5.0	12.8	16.2	29.6
Calculus (1.0)	3.7	12.0	8.8	14.4
Any science	**96.2**	**99.0**	**99.5**	**100.0**
Biology (1.0)	74.5	91.9	93.5	97.4
Chemistry (1.0)	28.7	49.2	54.4	74.8
Physics (1.0)	13.3	22.0	23.7	32.1
Biology, chemistry, physics (3.0)	9.7	17.5	20.5	30.1

SOURCE: Table 24-3, *Condition 1997*.

Support services

In addition to their curricular offerings, schools provide various other services to support the academic and health-related needs of their students. The particular services a school provides reflect the needs of the students and the availability of resources as well as the importance that the school places on such services. Federal and state laws require public schools to provide some services that are not required of private schools.

- *Public schools provide a wide array of academic support and health-related services.*

Table 15. Percentage of schools in which various services were available to students: 1993–94

Service	Public	Private
Academic support		
Remedial	83.2	54.5
Gifted and talented	70.7	24.9
Bilingual	17.8	4.2
ESL	42.7	11.3
Chapter I	61.6	22.7
Disability	89.2	24.8
Diagnostic services	82.6	43.5
Library	95.6	80.3
Health-related		
Medical services	58.7	31.0
Drug and alcohol prevention	93.6	70.6
Substance abuse counseling	36.2	14.4
Free or reduced-price lunches	94.3	22.4

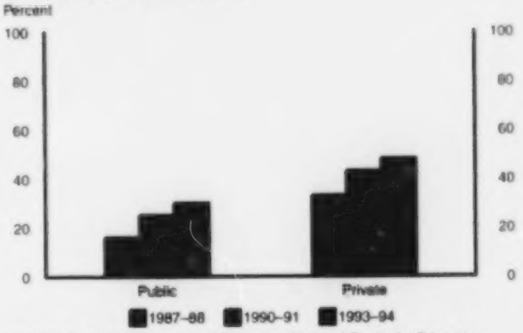
SOURCE: U.S. Department of Education, National Center for Education Statistics, *Schools and Staffing in the United States: A Statistical Profile, 1993–94*, pp. 26–29.

Most support services are found more often in public than private schools. This may occur because private schools do not believe their students need these services or because they do not believe they can afford to provide them. In addition, private schools may meet the special needs of students without formal programs.

- *Increasing numbers of schools in both sectors are providing extended-day programs, but public schools still lag behind private schools in this area.*

Because of the importance of high-quality child care to working parents, extended-day programs have become increasingly common in elementary and combined schools. However, considerably more private than public elementary and combined schools provided this service in the 1993–94 school year (48 versus 30 percent).

Figure 6. Percentage of elementary and combined schools that offered extended-day programs, by control of school: 1987–88, 1990–91, and 1993–94



SOURCE: U.S. Department of Education, National Center for Education Statistics, *Extended-Day Programs in Elementary and Combined Schools* Issue Brief, 1996 and *Schools and Staffing in the United States: A Statistical Profile, 1993–94*, pp. 30–31.

- *Private schools tend to have larger library collections (on a per pupil basis), but public school library/media centers tend to be more technologically advanced.*

Library/media center resources provide students with access to materials and equipment that facilitate and promote learning. Public schools were more likely than private schools to have libraries in 1993–94, but among schools with libraries, private schools had larger collections, on average, on a per student basis (37 versus 26 volumes) (*Indicator 6*). Expenditures (excluding federal gifts and grants) were similar in both sectors in 1993–94, however (about $8 per student annually among schools with libraries).

The library/media centers in public schools were more technologically advanced than those in pri-

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vate schools in 1993–94. For example, they were more likely to have an automated catalog and circulation system; computers with modems and connection to the Internet; and broadcast, cable, and closed circuit television facilities.

Table 16. Percentage of library media centers with various types of equipment: 1993–94

Equipment	Public	Private
Automated circulation system	37.9	9.5
Automated catalog	24.0	9.7
Computer with modem	34.3	19.5
Connection to Internet	12.0	5.3
Cable television	76.2	39.9
Broadcast television	48.6	39.9
Closed circuit television	25.5	8.8

SOURCE: Table 6-1, *Condition 1997*

Summary

Although there is much variation within each sector, in the aggregate, public school students present their schools with greater challenges than do their private school counterparts. Not only do they come from more diverse racial/ethnic and linguistic backgrounds but also public school teachers are more likely than private school teachers to perceive their students and their families as having problems that can interfere with learning.

Overall, teachers in public schools are more likely than their private school counterparts to have certain attributes that are thought to contribute to effective teaching. These include more schooling, more teaching experience, and greater participation in professional development activities. However, public and private school teachers use similar teaching strategies. On average, public school teachers earn more and receive more benefits, which provides public schools with one advantage when trying to attract and retain the best teachers.

Despite poorer pay, private school teachers as a group are more satisfied than public school teachers with their jobs. In the aggregate, private schools seem to offer a greater sense of community, greater teacher autonomy in the classroom, and more local influence over curriculum and important school policies. In addition, on average, private schools have a climate that would appear to be more conducive to learning, including greater safety and fewer problems caused by students having poor attitudes toward learning or negative interactions with teachers.

Finally, private school students take more advanced courses than do public high school students. They also appear to follow a more rigorous academic program overall, but the differences may be narrowing.

While some systematic differences between public and private education have been outlined here, enormous variation exists within each sector. How successful students are in school does not depend on whether they attend public or private schools, but is related in complex ways to the abilities, attitudes, and problems they bring to school; the skills and expertise of their teachers; and the quality of the learning environment, which is the joint responsibility of students, teachers, school administrators, parents, the larger communities in which the schools are located, and policymaking at the local, state, and federal levels.

NOTES:

[1] A.S. Bryk, V.E. Lee, and P. B. Holland, *Catholic Schools and the Common Good*, Cambridge, MA: Harvard University Press, 1993.

[2] D. Baker, M. Han, and C.T. Keil, *How Different, How Similar? Comparing Key Organizational Qualities of American Public and Private Secondary Schools* (NCES 96-322). Washington, D.C.: U.S. Department of Education, National Center for Education Statistics, 1996, p. 35.

[3] See, for example, R.R. Henke, S.P.Choy, and S. Geis, *Schools and Staffing in the United States: A Statistical Profile, 1993–94* (NCES 96-124). Washington, D.C.: U.S. Department of Education, National Center for Education Statistics, 1996; Baker, Han, and Keil, *How Different, How Similar?*; and S.A. Bobbitt, S.P.Broughman, and K.J. Gruber, *Schools and Staffing in the United States: Selected Data for Public and Private Schools, 1993–94* (NCES 95-191). Washington, D.C.: U.S. Department of Education, National Center for Education Statistics, 1995.

[4] U.S. Department of Education, National Center for Education Statistics, *Digest of Education Statistics 1996*, p. 51.

[5] U.S. Department of Education, National Center for Education Statistics, *Schools and Staffing in the United States, 1993–94*, pp. 24–25.

[6] P.A. Graham, "Black Teachers: A Drastically Scarce Resource," *Phi Delta Kappan* 68 (8) (1987): pp. 598–605; and S.H. King, "The Unlimited Presence of African-American Teachers," *Review of Educational Research* 63 (2) (1993): pp. 115–149.

[7] U.S. Department of Education, National Center for Education Statistics, *Schools and Staffing in the United States, 1993–94*, pp. 52–53.

[8] Ibid, pp. 54–55.

[9] Ibid, pp.56–57.

[10] Ibid, pp. 90–91, 93.

[11] Ibid, pp. 94–95.

[12] Ibid, p. 107.

[13] V.E. Lee, and J.B. Smith, "High School Size: Which Works Best, and for Whom?," Paper presented at the 1996 annual meeting of the American Educational Research Association, New York, 1996.

[14] F. Mosteller, R. Light, and J. Sachs, "Sustained Inquiry in Education: Lessons from Skill Grouping and Class Size," *Harvard Educational Review* 66 (4) (1996): pp. 797-842.

[15] J.E. Chubb, and T.M. Moe, *Politics, Markets, and America's Schools*, Washington, D.C.: The Brookings Institution, 1990.

[16] U.S. Department of Education, National Center for Education Statistics, *The National Education Goals Report: Building A Nation of Learners 1996*, Washington, D.C., 1996.

[17] U.S. Department of Education, National Center for Education Statistics, *Schools and Staffing in the United States, 1993-94*, pp. 112-113.

[18] S.J. Rosenholtz, *Teachers' Workplace: The Organizational Context of Schooling*, New York, NY: Teachers College, 1991.

Postsecondary Persistence and Attainment

by Stephanie Cuccaro-Alamin, MPR Associates, Inc.

Postsecondary degree attainment is associated with better access to employment and higher earnings, especially for bachelor's degree seekers.[1] In 1995, on average, male bachelor's degree recipients aged 25–34 earned 52 percent more, and female bachelor's degree recipients 91 percent more than their counterparts with a high school diploma (*Indicator 33*). As students' awareness of the economic and social benefits of degree attainment has increased, so have their postsecondary enrollments. The percentage of high school graduates who enrolled in 2- or 4-year colleges and universities in the October following graduation increased from 49 percent to 62 percent between 1972 and 1995 (*Indicator 8*). During this same period, the percentage of 25- to 29-year-old high school graduates who had completed 4 or more years of college rose from 24 to 28 percent (*Indicator 22*).

To help ensure successful outcomes for the increasing number of students seeking postsecondary credentials, it is crucial to understand the factors associated with degree completion. Today, students can choose from a range of institution types and enrollment options to find the best fit between their degree objectives, abilities, and social and economic circumstances. Many students are attending part time, working while enrolled, attending sporadically, and attending more than one institution before graduating.[2] While these strategies may help students strike a balance between their economic and social considerations and their degree objectives, they may also negatively affect students' persistence and attainment.

The following discussion addresses how students' enrollment choices are related to their postsecondary persistence and attainment. Specifically, it takes into account such factors as degree objective, type of institution attended, timing of enrollment, enrollment intensity and continuity, transfer, financial aid receipt, and student employment. Examining persistence and attainment outcomes and the enrollment factors related to them can provide the critical information necessary to help teachers, counselors, parents, and students make informed enrollment decisions to help maximize their success.

Most of the data describe the persistence and attainment through 1994 of students (regardless of age) who began their postsecondary education in the 1989–90 academic year. Additional data describe the postsecondary experiences of 1980 high school sophomores 10 years after their expected graduation. Some data on the college experiences of 16- to 24-year-olds from the 1970s to the 1990s are also included.

Postsecondary access

- *Increasing proportions of high school graduates are enrolling in 2- or 4-year colleges and universities.*

The percentage of high school graduates who enrolled in 2- or 4-year colleges and universities in the October following high school graduation increased from 49 percent in 1972 to 62 percent in 1995. The difference in the immediate enrollment rates of male and female high school graduates disappeared during this period.

Table 1. Percentage of high school graduates aged 16–24 enrolled in college the October following graduation, by selected characteristics: 1972 and 1995

Selected characteristics	1972	1995
Total	**49.2**	**61.9**
Sex		
Male	52.7	62.6
Female	46.0	61.3
Family income		
Low income	26.1	34.2
Middle income	45.2	56.1
High income	63.8	83.4
Race/ethnicity		
White	49.7	64.3
Black	44.6	51.2
Hispanic	45.0	53.7

SOURCE: Indicator 8, *Condition 1997.*

Despite overall rising enrollment rates, participation in higher education is still lower for many minority and low income students. The percentage of high school graduates aged 16–24 who enrolled in college immediately after high school grew for whites and blacks between 1972 and 1995, and fluctuated, but overall, remained relatively stable for Hispanics. In addition, in 1972, high school graduates from low income families were less likely than those from middle or high income families to go directly to college; these income differences still existed in 1995.

Immediate enrollment in postsecondary education following high school graduation is not a complete measure of enrollment trends, however, as many students may delay their entry into postsecondary education to work and save money for school. Examining the postsecondary enrollment rates of 1980 high school sophomores within 10 years of their expected high school graduation (1992) produces a more accurate picture of enrollment. For example, among the 1980 high school sophomore cohort, by 1992 female students were more likely to have enrolled in postsecondary education than were males.

Table 2. Percentage of 1980 high school sophomores who were enrolled in postsecondary education by 1992, by 1982 selected characteristics

Selected characteristics	Enrolled by 1992
Total	**66.4**
Sex	
Male	61.9
Female	70.7
Socioeconomic status	
Lowest quartile	48.0
Middle quartiles	69.0
Highest quartile	88.3
Race/ethnicity	
White	68.8
Black	61.3
Hispanic	53.1

SOURCE: Table 26-1, *Condition 1996*

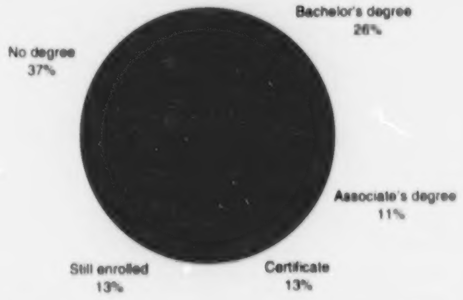
Nevertheless, the disparities found in the immediate enrollment rates of low income and some minority high school graduates aged 16–24 are still evident when we examine the postsecondary enrollment rates of 1980 high school sophomores after 10 years. For example, white students from this cohort were more likely than black or Hispanic students to have enrolled in postsecondary education within 10 years (69 versus 61 and 53 percent, respectively) (table 26-1, *Condition 1996*). In addition, black students were more likely than their Hispanic counterparts to enroll by 1992 (61 percent versus 53 percent), and students with high socioeconomic status (SES) were nearly twice as likely as their low SES counterparts to do so (88 versus 48 percent).

Even among students in the highest achievement test quartiles, enrollment rates were considerably lower for low SES students than for high SES students. For example, 1992 seniors in the highest achievement test quartile and highest SES were much more likely to enroll within 2 years of scheduled graduation than those in the highest achievement test quartile and lowest SES (97 compared to 78 percent, respectively) (*Indicator 9*). Although enrolling in postsecondary education is the first step toward degree completion, ultimate attainment of a postsecondary credential depends upon students' ability to persist in their enrollment.

Postsecondary outcomes

Approximately half of those students of all ages who began their postsecondary education in 1989–90 attained some postsecondary credential within 5 years of their initial enrollment: 26 percent obtained a bachelor's degree, 11 percent an associate's degree, and 13 percent a certificate. Another 13 percent of students were also still working toward a degree in 1994, and the remaining 37 percent were no longer enrolled and left without a degree or certificate by that year.[3]

Figure 1. Percentage of 1989–90 beginning postsecondary students according to persistence and attainment outcomes as of spring 1994



SOURCE: U.S. Department of Education, National Center for Education Statistics, 1990 Beginning Postsecondary Students Longitudinal Study, Second Follow-up (BPS:90/94).

- *Disparities found in postsecondary enrollment rates related to low income and minority status are also evident in attainment outcomes.*

Generally, regardless of the type of degree pursued, 1980 high school sophomores with low SES backgrounds and those from some minority groups were less likely than others to obtain a postsecondary credential. For instance, Asian/Pacific Islander and white high school sophomores were more likely than their black, Hispanic, or American Indian/Alaskan Native counterparts to have earned a bachelor's degree by 1992. In addition, high school sophomores with high SES backgrounds were much more likely than their low or middle SES counterparts to have earned at least a bachelor's degree. About 75 percent of low SES high school sophomores had obtained no postsecondary credential by 1992.[4]

Table 3. Percentage distribution of 1980 high school sophomores according to highest degree earned through 1992, by selected characteristics

Selected characteristics	Less than high school	High school	Certificate	Associate's	Bachelor's or higher
Total	**5.8**	**51.5**	**11.0**	**7.9**	**23.8**
Sex					
Male	6.5	53.5	9.7	6.7	23.6
Female	5.0	49.5	12.4	9.1	23.9
Socioeconomic status					
Lowest quartile	9.0	64.6	12.3	6.9	7.2
Middle two quartiles	3.9	53.8	11.5	9.1	21.6
Highest quartile	1.4	32.7	7.0	7.6	51.3
Race/ethnicity					
White	4.9	49.1	10.1	8.4	27.5
Black	6.9	59.6	16.3	5.2	12.2
Hispanic	11.9	59.6	11.2	7.3	9.9
Asian/Pacific Islander	0.6	40.9	6.9	6.2	45.6
American Indian/ Alaskan Native	17.8	58.2	11.8	5.0	7.2

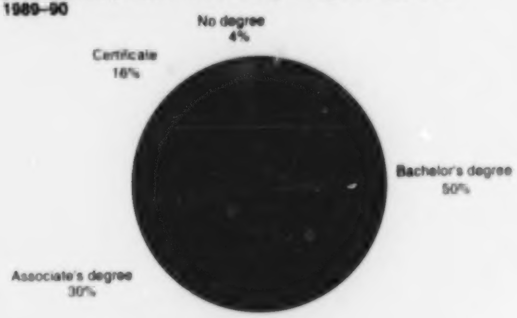
SOURCE: Table 26-2, *Condition 1996*

Students who choose to enroll in postsecondary education face a range of enrollment choices. Such choices include their degree objective, the type of institution to attend, the timing of enrollment, enrollment intensity and continuity, and financing their enrollment. These decisions, in turn, can affect students' persistence and attainment outcomes.

Degree objective

Of students beginning their postsecondary education for the first time in the 1989–90 academic year, half were working toward a bachelor's degree, 30 percent toward an associate's degree, and 16 percent toward a certificate. Approximately 4 percent of first-time beginners were not working toward any degree.[5] An examination of student outcomes 5 years later shows differential results depending on degree objective.

Figure 2. Percentage distribution of 1989–90 beginning postsecondary students according to degree objective in 1989–90



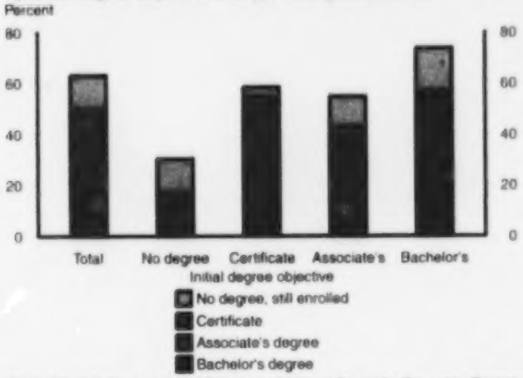
SOURCE: U.S. Department of Education, National Center for Education Statistics, 1990 Beginning Postsecondary Students Longitudinal Study, Second Follow-up (BPS:90/94).

- *Students seeking bachelor's degrees are more likely than students seeking other degrees to attain a degree or be still enrolled 5 years after their initial enrollment.*

Irrespective of the institution where they first enrolled, first-time beginning students seeking bachelor's degrees in 1989–90 were more likely than those seeking associate's degrees to attain their degree objective within 5 years of initial enrollment (46 versus 23 percent); however, they were no more likely than students seeking certificates to do so (48 percent). Given the relative durations of the typical programs, data on differences in degree completion after 5 years may be more meaningful for students seeking associate's degrees and certificates than for bachelor's degree seekers.

In measuring persistence and attainment rates for bachelor's degree seekers, it is appropriate to include those still enrolled in postsecondary education who have not yet reached their goal, as well as those who have attained a degree other than the one they initially sought. By this measure, bachelor's degree seekers were more likely to persist overall than their counterparts seeking any other degree. For example, nearly three-quarters of all bachelor's degree seekers who began in 1989–90 either attained some degree or were still enrolled in postsecondary education in 1994, compared to 59 percent of those seeking a certificate and 55 percent of those seeking an associate's degree.

Figure 3. Percentage of 1989–90 beginning postsecondary students who attained a degree or who were still enrolled as of spring 1994, by initial degree objective and type of degree attained



SOURCE: U.S. Department of Education, National Center for Education Statistics, 1990 Beginning Postsecondary Students Longitudinal Study, Second Follow-up (BPS 90/94).

Although many first-time 1989–90 beginning students seeking associate's degrees and certificates had not completed the degree they sought after 5 years, many were enrolled for a significant period of time. For instance, among associate's degree seekers at 2-year institutions who had not completed degrees, the average student was enrolled for 19 months. Certificate seekers at less-than-4-year institutions (includes 2-year and less-than-2-year institutions) who did not complete their credential were enrolled for an average of 11 months (*Indicator 11*).

Type of institution

Community colleges are an important cost-saving vehicle for students seeking bachelor's degrees. Because their tuition and fees are often lower, they can be an inexpensive way for students to meet lower-division requirements. In 1989–90, nearly one-quarter (23 percent) of bachelor's degree seekers began their studies at 2-year institutions.[6] Although attending a community college may make good financial sense, it may not be conducive to completing a bachelor's degree.

- *Bachelor's degree seekers who enroll initially at 2-year institutions are far less likely than those who start at 4-year institutions to attain a bachelor's degree within 5 years.*

Fifty-seven percent of first-time beginning students seeking a bachelor's degree who began at a 4-year institution in 1989–90 had completed the degree 5 years later, compared to 8 percent of those who began at a 2-year institution. Taking into account continued enrollment toward a bachelor's degree and attainment of other degrees, three-quarters of bachelor's degree seekers who began at 4-year institutions had completed some degree or were still enrolled toward a bachelor's degree after 5 years, compared to 54 percent of those who began at 2-year institutions.

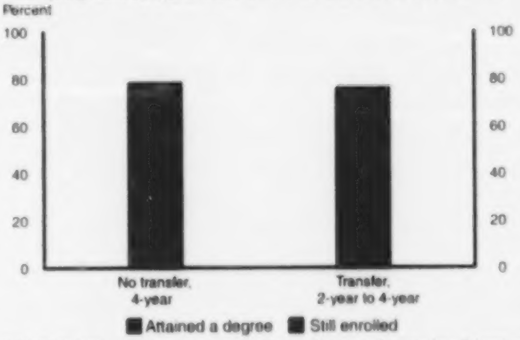
Table 4. Percentage distribution of 1989–90 beginning postsecondary students seeking bachelor's degrees, by highest degree attained as of spring 1994 and level of first institution attended

Level of first institution	Highest degree completed: Bachelor's	Highest degree completed: Associate's	Highest degree completed: Certificate	Total, any degree	Still enrolled for bachelor's	No degree, not enrolled
Total	**45.8**	**5.1**	**3.3**	**54.3**	**17.5**	**28.3**
4-year	57.1	2.5	2.1	61.7	15.3	23.1
2-year	7.9	13.9	7.2	29.0	25.3	45.8

SOURCE: Table 10-1, *Condition 1996*.

Bachelor's degree seekers who begin their postsecondary education at a 2-year institution must transfer to a 4-year institution in order to complete a bachelor's degree; however, many students fail to do so. For students who do transfer to a 4-year institution, having attended a 2-year institution is not related to their overall rates of persistence, but is associated with time-to-degree. Five years after initial entry, 40 percent of bachelor's degree seekers at 2-year institutions who transferred to 4-year institutions were still enrolled, and 36 percent had completed a postsecondary credential.

Figure 4. Percentage of 1989–90 beginning postsecondary students seeking bachelor's degrees who attained a degree or were still enrolled as of spring 1994, by type of first institution attended and transfer status



SOURCE: U.S. Department of Education, National Center for Education Statistics, 1990 Beginning Postsecondary Students Longitudinal Study, Second Follow-up (BPS 90/94).

Thus, although bachelor's degree seekers who started at 2-year institutions were less likely than those who started at 4-year institutions to attain a bachelor's degree within 5 years (57 versus 8 percent), if students who began at 2-year institutions did transfer, they were equally as likely as those who began at 4-year institutions to persist overall (76 versus 78 percent).

- *Bachelor's degree recipients who start at 2-year institutions are more than twice as likely as those who start at 4-year institutions to take more than 6 years to complete their degree.*

Many students who enroll at community colleges attend part time. For instance, in 1989–90, 48 percent of students enrolled at 2-year institutions were enrolled on a less than full-time basis.[7] Therefore, bachelor's degree seekers who first enroll in these institutions may be likely to take longer to complete their degree. Among 1992–93 bachelor's degree recipients, those who started at 2-year institutions were more than twice as likely as those who started at 4-year institutions to take more than 6 years to complete their degree (44 versus 18 percent) (Indicator 11, *Condition 1996*).

- *Graduates of public 4-year institutions take longer to complete their bachelor's degree than graduates of private, not-for-profit institutions.*

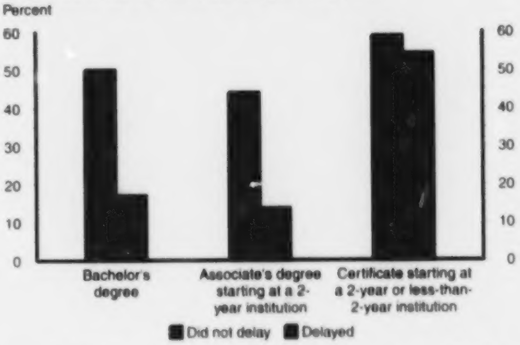
Among bachelor's degree seekers who start at 4-year institutions, time-to-degree is also related to the control of the 4-year institution. Those who received their bachelor's degree from private, not-for-profit 4-year institutions were much more likely than graduates of public 4-year institutions to have completed the degree within 4 years (53 versus 28 percent) (Indicator 11, *Condition 1996*).

Timing of enrollment

- *Delaying enrollment into postsecondary education by as little as 1 year after high school is associated with poorer persistence and attainment outcomes.*

Many students delay enrolling in postsecondary education; in fact, almost one-third of beginning postsecondary students in 1989–90 did so.[8] Delayed entry is more common among lower SES students than high SES students (57 versus 10 percent), and among students whose parents had not completed any education beyond high school than among students whose parents have had some postsecondary education (from 33 to 50 percent and 9 to 20 percent, respectively).[9] These differences in the timing of enrollment are important because students who delay their enrollment are less likely to attain a degree or persist than those who enter postsecondary education immediately.

Figure 5. Percentage of 1989–90 beginning postsecondary students who attained their initial degree objective or a higher degree as of spring 1994, by delayed entry status



SOURCE: Table 10-1, *Condition 1996* and tables 11-1 and 11-2, *Condition 1997*.

Among first-time beginning students in 1989–90, bachelor's degree seekers who delayed their entry into postsecondary education by as little as 1 year after receiving their high school diploma were less likely to attain the degree they sought within 5 years than those who enrolled immediately. They were also twice as likely as those who did not delay to attain no degree and to no longer be working toward a bachelor's degree (48 versus 25 percent) (table 10-1, *Condition 1996*). Similarly, associate's degree seekers at 2-year institutions who delayed their enrollment were less likely to attain the degree they sought or a higher degree than students who did not delay. Delayed entry was not associated with the likelihood of attaining a certificate or a higher degree among certificate seekers at less-than-4-year institutions, however.

The experience of students who received their bachelor's degrees in 1993 provides further evidence of the effect of delayed enrollment. Among 1993 bachelor's degree recipients, those who delayed entry by 1 or more years were less likely to complete their degree within 4 years (11 versus 38 percent) and were more likely to take 6 or more years to do so (22 versus 59 percent) (Indicator 11, *Condition 1996*).

Enrollment intensity and continuity

Enrollment has two dimensions: intensity and continuity. The intensity of enrollment refers to whether a student attends part time or full time, and the continuity of enrollment refers to whether or not a student is continuously enrolled over a period of time. Both part-time and noncontinuous enrollment have been shown to be related to lower rates of student persistence.[10]

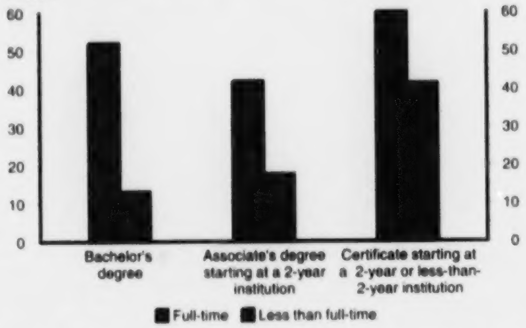
- *Full-time enrollment is associated with higher rates of persistence and attainment.*

Exclusively part-time enrollment is most common among first-time beginning students attending public less-than-4-year institutions and those seeking subbaccalaureate degrees and certificates.[11] In total, 42 percent of associate's degree seekers at 2-year institutions and 36 percent of certificate seekers at less-than-4-year institutions enrolled on a less than full-time basis during their first term in 1989–90, compared to 15 percent of bachelor's degree seekers.[12] Exclusively part-time attendance is more common among students who are older (45 percent for those aged 20 years or older versus 7 percent for those aged 18), financially independent (46 percent for independent students versus 10 percent for dependent students), and who work full time while enrolled (52 percent for those who worked 34 or more hours per week versus 4 percent for those who worked less than 15 hours per week) (table 13-1).

The intensity of students' enrollment is related to their postsecondary persistence and attainment regardless of their degree objective. As expected, bachelor's degree seekers who first enrolled on a full-time basis were more likely to complete a bachelor's degree within 5 years than those who enrolled less than full time (52 compared to 13 percent). Illustrating that part-time attendance may prolong students' time-to-degree, bachelor's degree seekers who attended less than half time were more likely than their full-time counterparts to still be enrolled 5 years after initially entering postsecondary education. Despite the high number of part-time students who were still enrolled, overall the 1989–90 beginning bachelor's degree seekers who initially attended less than full time were more likely than students who attended exclusively full time to have no degree and to no longer be working toward a bachelor's degree 5 years after initially entering postsecondary education (25 versus 44 percent).

Less than full-time attendance is also negatively associated with the persistence and attainment outcomes of students seeking subbaccalaureate degrees. For example, 62 percent of certificate seekers at less-than-4-year institutions and 42 percent of associate's degree seekers at 2-year institutions who attended full time had attained the degree they sought or a higher degree after 5 years, compared to 41 and 18 percent, respectively, of those who attended less than half time (*Indicator 11*).

Figure 6. Percentage of 1989–90 beginning postsecondary students who attained their degree objective or a higher degree as of spring 1994, by enrollment status during first term



SOURCE: Table 10-1, *Condition 1996* and tables 11-1 and 11-2, *Condition 1997*.

- *Breaking the continuity of enrollment is related to lower overall persistence and prolonged time-to-degree.*

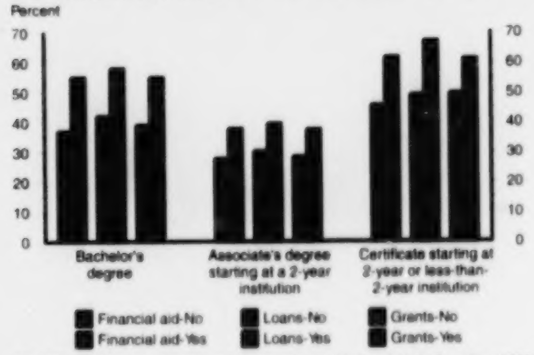
As with part-time attendance, noncontinuous enrollment may be associated with factors such as students' lack of funds or their need to work full time, which might interfere with their persistence. On average, 35 percent of 1989–90 first-time beginners who interrupted their enrollment for a period of more than 4 months had completed a degree 5 years after their initial enrollment, compared to 56 percent of those who had no break in continuity.[13] Students who interrupted their enrollment were more likely to be still enrolled 5 years after initially entering postsecondary education (25 versus 8 percent).

Financial aid

Financial aid provides access to postsecondary education for students without the financial resources to attend on their own. Because aid may substitute for work as a financial resource, it may facilitate persistence and attainment by enabling a student to attend full time rather than working to finance their education and enrolling part time.

- *Aided bachelor's degree seekers graduate at the same rate as bachelor's degree seekers who do not receive aid.*

Figure 7. Percentage of 1989–90 beginning postsecondary students who attained their initial degree objective or a higher degree as of spring 1994, by receipt of financial aid, loans, and grants



SOURCE: Table 10-1, *Condition 1996* and tables 11-1 and 11-2, *Condition 1997*

Beginning bachelor's degree seekers who received financial aid in 1989–90 (both grants and loans) were more likely to attain a bachelor's degree within 5 years than those who did not receive such aid. Those who did not receive aid were more likely to still be working toward their degree. Students who did not receive aid were also more likely to have no degree and to no longer be enrolled in postsecondary education.

Table 5. Percentage of 1989–90 beginning postsecondary students seeking bachelor's degrees who attained any degree or were still enrolled as of spring 1994, by control of first institution and aid receipt in 1989–90

	Control of first institution	
Aid received	Public	Private, not-for-profit
Total	**71.2**	**81.0**
Received aid in 1989–90		
No	71.0	80.8
Yes	71.5	81.1
Received grant in 1989–90		
No	71.6	80.6
Yes	70.3	81.3
Received loan in 1989–90		
No	70.9	81.8
Yes	72.6	79.9

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1990 Beginning Postsecondary Students Longitudinal Study, Second Follow-up (BPS 90/94).

The differences in the attainment rates among 1989–90 beginning postsecondary students seeking bachelor's degrees according to financial aid receipt are largely an artifact of the control of the institutions students attend. Specifically, overall rates of persistence and attainment are higher among bachelor's degree seekers in private, not-for-profit institutions, where financial aid receipt is more common than in public institutions.[14] When the control of the institution is held constant, persistence and attainment rates among bachelor's degree seekers who received any aid, and grants and loans in particular, are similar. Thus it appears that financial aid helps aided students graduate at the same rate as nonaided students.

- *Financial aid is positively related to attainment among students seeking subbaccalaureate degrees.*

For students seeking subbaccalaureate degrees and certificates, the effects of financial aid receipt differ according to degree objective. For example, certificate seekers at less-than-4-year institutions who received financial aid in general, and specifically grants or loans, were more likely to obtain a certificate or a higher degree by 1994 than those who did not receive such aid.

Compared to students attending other levels of institutions, relatively few 1989–90 beginning postsecondary students seeking associate's degrees at 2-year institutions received financial aid. In total, 35 percent received some sort of aid; 11 percent received loans and 31 percent received grants (table 11-3). Among associate's degree seekers at 2-year institutions, both overall receipt of financial aid and receipt of grants were associated with completing associate's and higher degrees.

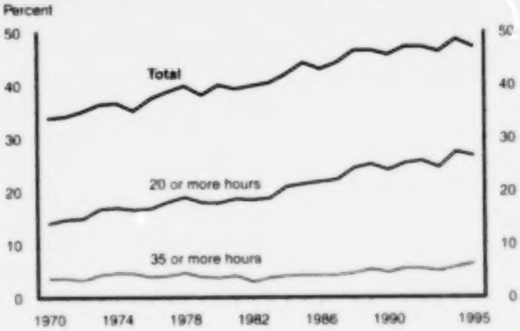
Working while enrolled

Many students work in order to help finance their postsecondary enrollment, which students may do instead of or in addition to receiving financial aid. Although working full time while enrolled may help free students from future debt, evidence suggests that this choice is negatively related to persistence and attainment outcomes.

- *Student employment is on the rise.*

The percentage of full-time students at 2- and 4-year colleges and universities who work while enrolled rose from 34 percent in 1970 to 47 percent in the late 1980s and has stabilized at this rate since then (47 percent in 1995). During this same period, the percentage of students working 20 or more hours per week almost doubled (from 14 to 27 percent) (*Indicator 50*). Data on 1989–90 first-time beginning students indicate that the majority of students worked at some time while enrolled in postsecondary education (89 percent) (*Indicator 13*).

Figure 8. Percentage of 16- to 24-year-old full-time college students who were employed in October, by hours employed per week: 1970–95

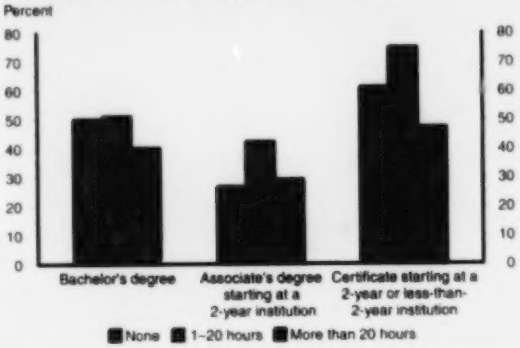


- *Students who work full time have lower rates of postsecondary persistence and attainment.*

The relationship of student employment to persistence and attainment varies with the intensity of the employment. Research suggests that full-time, off-campus work may negatively affect students' persistence and attainment.[15] Students who work full time are more likely to attend exclusively part time (*Indicator 13*). As indicated above, part-time students have lower rates of persistence and attainment.

Students who work appear to be disadvantaged in programs where full-time attendance is highly correlated with completing postsecondary education. For instance, bachelor's degree seekers and certificate seekers at less-than-4-year institutions who worked 20 or more hours per week during their first year of enrollment were much less likely than students who did not work or who worked 1–20 hours per week to earn the degree they sought within 5 years (or a higher degree in the case of certificate seekers). However, the attainment rates of associate's degree seekers at 2-year institutions did not vary according to the number of hours they worked while enrolled.

Figure 9. Percentage of 1989–90 beginning postsecondary students who attained their initial degree objective or a higher degree as of spring 1994, by hours worked per week while enrolled



SOURCE: Table 10-1, *Condition 1996* and tables 11-1 and 11-2, *Condition 1997*

Summary

The data presented here illustrate that along with students' background characteristics, their enrollment choices are related to their likelihood of completing postsecondary education. Students choose when to enroll, the type of institution in which to enroll, the intensity of their enrollment, and how to finance their enrollment. In doing so, they must balance their degree aspirations with the economic and social realities of their lives.

Generally, the evidence suggests that students who attend part time and work full time are less likely to complete their degree in a timely fashion than students who attend full time and work part time. Part-time attendance can also signify the existence of other factors besides work that might interfere with persistence, such as limited financial resources or family responsibilities.

For students seeking bachelor's degrees, the surest path to attainment appears to be entering a 4-year institution immediately following high school. Although delaying entry in order to work and save money or starting out at a lower cost community college may make good financial sense, evidence suggests these choices are less likely to lead to attaining a bachelor's degree within 5 years.

Bachelor's degree seekers who received financial aid and those who did not receive aid persisted and attained at similar rates. For students seeking subbaccalaureate credentials, in the aggregate, financial aid significantly improved their chances of success. Among certificate seekers at 2-year and less-than-2-year institutions and associate's degree seekers at 2-year institutions, students who received any financial aid, and grants in particular, were more likely to have completed the degree they sought or a higher degree within 5 years. Although receipt of loans had a similar effect for certificate seekers, attainment rates of associate's degree seekers at 2-year institutions did not differ according to loan receipt.

Even though certain enrollment choices may be associated with higher rates of success, no particular enrollment pattern is feasible or appropriate for every student. Rather, the postsecondary sector offers a range of enrollment choices in order to meet the needs of students with different degree objectives and social and economic circumstances. With the earnings gap between a high school degree and a postsecondary credential widening and the economy demanding increasingly skilled workers, greater numbers of students who are unable to attend full time or who cannot afford to enroll in 4-year institutions may be entering the postsecondary sector. Many of these students have full-time jobs, child care needs, and other family obligations. Understanding the factors associated with postsecondary success can help these students in making appropriate enrollment choices. Moreover, this information can assist postsecondary institutions in designing programs for students who are at risk of attrition.

NOTES:

[1] American Council on Education: Division of Policy Analysis and Research. *Higher Education Today: Facts in Brief.* Washington, D.C., May 1994, p. 5, and W.N. Grubb. *Postsecondary Vocational Education and the Sub-B.A. Labor Market: New Evidence on Economic Returns.* Berkeley, CA: February, 1991.

[2] *Current Population Reports P20-479.* Washington, D.C.: U.S. Government Printing Office, 1994; U.S. Department of Education. *Digest of Education Statistics, 1993.* Washington, D.C.: U.S. Department of Education. *The Condition of Education 1997,* Indicator 50. Washington, D.C., 1997.

[3] L. Berkner, S. Cuccaro-Alamin, and A.C. McCormick. *BPS:90/94 Descriptive Summary of 1989-90 Beginning Postsecondary Students: 5 Years Later, With an Essay on Postsecondary Persistence and Attainment.* Washington, D.C.: U.S. Department of Education, National Center for Education Statistics, 1996, table 1, p. 3.

[4] Although family income and socioeconomic status (SES) are highly correlated, they are constructed differently. Family income is usually shown in percentiles that are calculated separately for dependent and independent students. The percentile rank is based on family income for dependent students, and the student's own income for independent students. SES is a composite variable that combines parents' occupation, dependent student's family income, and the family's possession of a series of material goods.

[5] L. Berkner, S. Cuccaro-Alamin, and A.C. McCormick. *BPS:90/94 Descriptive Summary of 1989-90 Beginning Postsecondary Students: 5 Years Later, With an Essay on Postsecondary Persistence and Attainment.* Washington, D.C.: U.S. Department of Education, National Center for Education Statistics, 1996, table 7, p. 8.

[6] Ibid., table 14.10, p. 128.

[7] U.S. Department of Education, National Center for Education Statistics. *BPS:90/94 Beginning Postsecondary Students Second Follow-up: Data Analysis System.* Washington, D.C., 1997.

[8] L. Berkner, S. Cuccaro-Alamin, and A.C. McCormick. *BPS:90/94 Descriptive Summary of 1989-90 Beginning Postsecondary Students: 5 Years Later, With an Essay on Postsecondary Persistence and Attainment.* Washington, D.C.: U.S. Department of Education, National Center for Education Statistics, 1996, table 14.8, p. 126.

[9] U.S. Department of Education, National Center for Education Statistics. *BPS:90/94 Beginning Postsecondary Students Second Follow-up: Data Analysis System,* 1997.

[10] C.D. Carroll. *College Persistence and Degree Attainment for 1980 High School Graduates: Hazards for Transfers, Stopouts, and Part-Timers.* Washington, D.C.: U.S. Department of Education, National Center for Education Statistics, 1989; and L. Berkner, S. Cuccaro-Alamin, and A.C. McCormick. *BPS:90/94 Descriptive Summary of 1989-90 Beginning Postsecondary Students: 5 Years Later, With an Essay on Postsecondary Persistence and Attainment.* Washington, D.C.: U.S. Department of Education, National Center for Education Statistics, 1996.

[11] A.C. McCormick, S. Geis, and R. Vergun. *Profile of Part-Time Undergraduates in Postsecondary Education: 1989-90.* Washington, D.C.: U.S. Department of Education, National Center for Education Statistics, 1995, table 2, pp. 8–10.

[12] U.S. Department of Education, National Center for Education Statistics. *BPS:90/94 Beginning Postsecondary Students Second Follow-up: Data Analysis System.* Washington, D.C., 1997.

[13] L. Berkner, S. Cuccaro-Alamin, and A.C. McCormick. *BPS:90/94 Descriptive Summary of 1989-90 Beginning Postsecondary Students: 5 Years Later, With an Essay on Postsecondary Persistence and Attainment.* Washington, D.C.: U.S. Department of Education, National Center for Education Statistics, 1996, table 1.2, p.33.

[14] J. Tuma and S. Geis. *Student Financing of Undergraduate Education, 1992-93.* Washington, D.C.: U.S. Department of Education, National Center for Education Statistics, 1995.

[15] A. Astin. *Financial Aid and Student Persistence* (HERI Research Report. No. 75-2). Los Angeles: Higher Education Research Institute, 1975; A. Astin. *Preventing Students from Dropping Out.* San Francisco: Jossey-Bass, 1975; R. Ehrenberg and D. Sherman. "Employment While in College: Academic Achievement and Post-College Outcomes: A Summary of Results," *Journal of Human Resources:* 12 (1): 1-23, 1986; and L. Horn. *Undergraduates Who Work While Enrolled in Postsecondary Education: 1989-90.* Washington, D.C.: U.S. Department of Education, National Center for Education Statistics, 1994.

Access,
Participation, and Progress

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Access, Participation, and Progress

A wide variety of educational opportunities are available to both children and adults in the United States. Preprimary education prepares young children socially and academically for first grade; elementary and secondary education provide a foundation of basic skills that prepare young people to become productive members of society; and postsecondary education provides a wide range of options for individuals to gain advanced knowledge and skills either immediately after high school or later in life. In addition, many employers help workers upgrade their skills or reorient them to meet the demands of changing technologies.

The benefits one obtains from formal education are closely related to the degree of participation. Thus, the extent to which individuals and groups have access to educational opportunities and how they progress through various levels is important to monitor. While the data show increased access to and participation in many types of educational activities, there continue to be discrepancies in access, participation, and progress according to family income, parents' education, and race/ethnicity.

Access and participation

Because of mandatory attendance laws, enrollment rates for children aged 6–15 have been close to 100 percent for many years (Indicator 1, *Condition 1996*). However, increasing emphasis on the importance of education in recent years has brought greater participation by age groups for whom attendance is not compulsory.

In 1995, 37 percent of 3-year-olds, 61 percent of 4-year-olds, and 90 percent of 5-year-olds were enrolled in a center-based program or kindergarten (*Indicator 1*). For each age group, the 1995 enrollment rate was greater than the 1991 rate. Preprimary programs are not equally accessible to all children, however. In both 1991 and 1995, enrollment rates for 3- and 4-year-olds were closely related to family income, with children from families with incomes greater than $50,000 being much more likely than those from families with lower incomes to be enrolled. Enrollment rates for 3- and 4-year-olds also rise with parents' education level.

Parents can help prepare their children for school by reading to them, telling them stories, and taking them to the library. Between 1991 and 1995, the percentage of children aged 3–5 who participated in each of these activities increased (*Indicator 2*). Participation rates for these activities increased with parents' education level, and were higher for white children than for black or Hispanic children.

Participation in postsecondary education is increasing, although enrollment varies by income, race/ethnicity, and socioeconomic status (SES). For example, in 1972, 49 percent of high school graduates went directly to college, compared to 62 percent in 1995 (*Indicator 8*). Eighty-three percent of high school graduates from families with incomes in the top 20 percent, compared to 34 percent of those from families with incomes in the bottom 20 percent, went directly to college in 1995. In addition, college enrollment rates for whites aged 18–24 grew substantially between 1982 and 1995 (11 percentage points), but grew more moderately for blacks (8 percentage points) (*Indicator 10*). Finally, even among students in the highest test quartile in high school, enrollment within 2 years of graduating from high school was much greater for students in the highest SES quartile (97 percent) than for those in the lowest SES quartile (78 percent) (*Indicator 9*).

The cost of postsecondary education to students and their families affects access, and costs have been rising faster than income. In 1980, the average undergraduate tuition, room, and board at 2- and 4-year public institutions amounted to 11 percent of the median family income, compared to 15 percent in 1995 (*Indicator 12*). Lower income families have been hit particularly hard: At the 20th percentile of family income, college costs increased from 22 to 32 percent of family income between 1980 and 1995, while costs rose from 7 to 9 percent for higher income families.

On-the-job training represents a firm's investment in the continuing education of its work force. The percentage of workers who participated in skill improvement training for their current job increased slightly from 30 to 32 percent between 1991 and 1995 (*Indicator 14*).

The availability of technology in schools is another aspect of access to educational opportunity. Computers have become an essential tool in today's society; in fact, the dramatic increase in the use of computers at school over the past decade reflects this trend. For example, 39 percent of 4th-graders used computers at school in 1984, compared to 86 percent who did so in 1994 (*Indicator 5*). While older students were less likely to report using computers than younger students, older students were more likely to use a computer every day. The percentage of schools with access to the Internet has increased rapidly in the last few years as well, rising from 35 percent in fall 1994 to 65 percent in fall 1996.*

Library media center resources provide another indication of student accessibility of computer technology. In the 1993–94 school year, 34 percent of public school library media centers had computers equipped with modems (*Indicator 6*). The extent that such resources are more available to some students than to others raises equity issues. Schools with relatively few low income students were much more likely than those with relatively high proportions of such students to have library media centers equipped with this technology.

Progress

To benefit fully from educational opportunities, individuals must show evidence of their development through and completion of various levels of education. Thus, it is just as important to monitor students' progress as it is to monitor their access and participation.

Children who experience problems in school during their early years may be at a higher risk for experiencing similar problems later on. Twenty percent of first- and second-graders aged 6–8 had parents who reported that they had academic problems with school work in 1995 (down from 24 percent in 1991) (*Indicator 3*). Black first- and second-graders were more likely than their white or Hispanic peers to have academic problems. In addition, the education level of parents was related to their children's behavioral problems and problems with school work: The lower the parents' education level, the more likely they were to report that their children had behavioral problems and problems with school work.

Students who repeat one or more grades are at greater risk of dropping out of school. In 1992 and 1995, about 10 percent of all children aged 5–17 had repeated at least one grade (*Indicator 4*). Children who had a disabling condition were more likely than children who did not have a disabling condition to repeat a grade in 1995 (25 versus 9 percent); however, unlike other children, the percentage of children who had a disabling condition and who repeated a grade declined between 1992 and 1995 (from 29 to 25 percent).

Because dropping out of school has negative economic and social consequences, it is important to monitor dropout rates. In October 1995, 6 percent of the students who had been in grades 10–12 a year earlier left without graduating (*Indicator 7*). Black and Hispanic students were more likely than white students to drop out, as were students from low income families compared to students from middle or high income families.

Subbaccalaureate programs offer occupationally specific training or may serve as the first step toward attaining a bachelor's degree. Many of those who enroll in these programs do not complete them, at least within 5 years. Of students who enrolled in postsecondary education for the first time in the 1989–90 academic year, 57 percent of those working toward an associate's degree and 46 percent of those seeking a certificate had not attained any degree by spring 1994 (*Indicator 11*). Attending part time and (for associate's degree seekers) delaying enrollment for at least 1 year after high school graduation were associated with lower completion rates.

Working while enrolled helps students better afford postsecondary education, but working a substantial amount may have negative consequences for persistence and attainment. Five years after their initial enrollment, students who began postsecondary education in the 1989–90 academic year and who worked full time (34 or more hours per week) were less likely than those who worked part time to have earned a degree or to be still enrolled (*Indicator 13*).

NOTE:

* U.S. Department of Education, National Center for Education Statistics, *Advanced Telecommunications in U.S. Public Elementary and Secondary Schools* (NCES 97-944), Fall 1996.

Preprimary education enrollment

Participating in early childhood programs such as nursery school, prekindergarten, Head Start, and kindergarten can better prepare a child to enter first grade. Many policymakers and educators believe that it is important to help children from disadvantaged backgrounds start elementary school on an equal footing with other children. Involving these students and their parents in preprimary programs beginning at earlier ages may provide them with valuable experiences that will help them start elementary school better prepared to learn.

- Preprimary education enrollment rates for 3-, 4-, and 5-year-olds were higher in 1995 than in 1991. In 1995, 37 percent of 3-year-olds, 61 percent of 4-year-olds, and 90 percent of 5-year-olds were enrolled in preprimary education.
- In 1995, similar percentages of white and black 3- and 4-year-olds were enrolled in center-based programs and kindergarten, while their Hispanic peers were less likely to be enrolled. In both 1993 and 1995, blacks and Hispanics were more likely than whites to be enrolled in kindergarten at age 5 (see supplemental tables 1-1 and 1-2).
- In 1991, 1993, and 1995, 3- and 4-year-olds from families with incomes of more than $50,000 were more likely to be enrolled than 3- and 4-year-olds from families with incomes of $50,000 or less.
- There was a positive relationship between parents' educational attainment and preprimary education enrollment rates of 3- and 4-year-olds: As parents' educational attainment increased, so did the preprimary enrollment rates of their children.
- In both 1993 and 1995, preprimary education enrollment rates for children aged 3 and 4 who lived with one biological or adoptive parent were similar to those of children who lived with two biological or adoptive parents.

Percentage of 3-, 4-, and 5-year-olds enrolled in center-based programs[1] and kindergarten, by selected student characteristics: 1991, 1993, and 1995

	3-year-olds			4-year-olds			5-year-olds		
Student characteristics	1991	1993	1995	1991	1993	1995	1991	1993	1995
Total	**31.4**	**34.1**	**37.4**	**52.7**	**55.3**	**60.9**	**86.4**	**90.0**	**90.3**
Race/ethnicity									
White	33.4	33.7	40.2	52.4	53.7	60.8	85.7	88.9	88.6
Black	31.6	41.9	41.1	57.4	62.9	68.2	92.3	93.2	93.7
Hispanic	19.8	27.2	21.2	47.5	48.9	49.0	85.3	91.4	93.4
Household income									
$10,000 or less	25.4	32.7	26.2	43.3	52.6	54.3	86.1	89.2	90.9
10,001–20,000	23.2	21.6	27.0	45.0	47.2	52.3	84.6	90.4	89.7
20,001–35,000[2]	21.3	22.2	27.7	48.0	47.8	49.7	85.1	86.8	90.7
35,001–50,000[2]	33.4	37.9	38.1	52.3	57.2	59.5	87.3	90.6	88.5
50,001 or more	52.9	58.7	61.2	74.8	73.2	80.7	89.0	93.7	90.9
Parents' highest education level									
Less than high school diploma	17.3	17.1	16.0	33.1	42.8	42.4	85.5	79.9	92.5
High school diploma or GED	23.0	23.0	26.3	40.8	43.2	51.1	84.8	89.0	89.2
Some college/vocational/technical	31.0	35.9	35.6	56.3	61.1	63.3	87.7	91.1	90.2
Bachelor's degree	41.5	41.1	51.7	67.2	64.1	70.7	88.1	92.5	91.6
Graduate/professional school	53.0	61.9	60.8	72.0	73.3	77.9	87.0	94.3	89.8
Family structure									
Two biological or adoptive parents	—	34.4	38.6	—	55.1	61.3	—	89.1	88.8
One biological or adoptive parent	—	33.8	36.9	—	57.2	63.0	—	92.1	94.0
One biological and one step parent	—	32.7	23.1	—	49.5	46.9	—	87.3	89.4
Other relatives	—	34.8	20.8	—	52.2	61.3	—	92.6	88.0

—Not available.

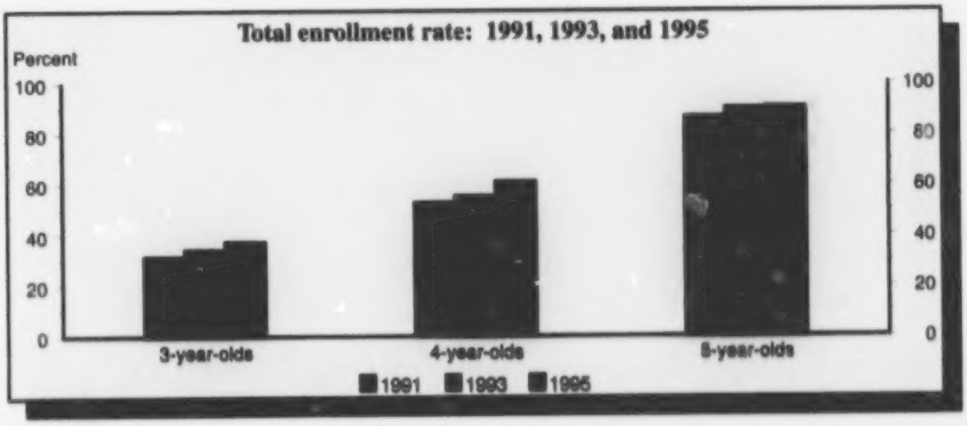
[1] Center-based programs include nursery, prekindergarten, and Head Start programs.

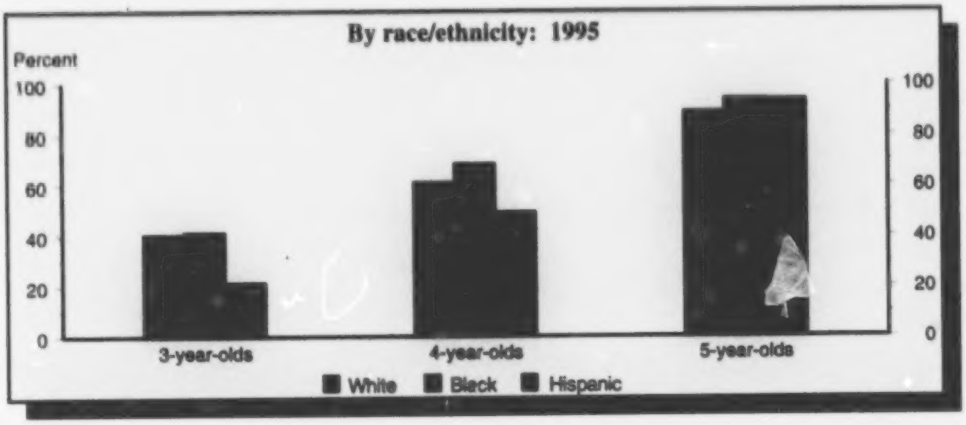
[2] The middle two income ranges in 1991 were $20,001–30,000 and $30,001–50,000, respectively.

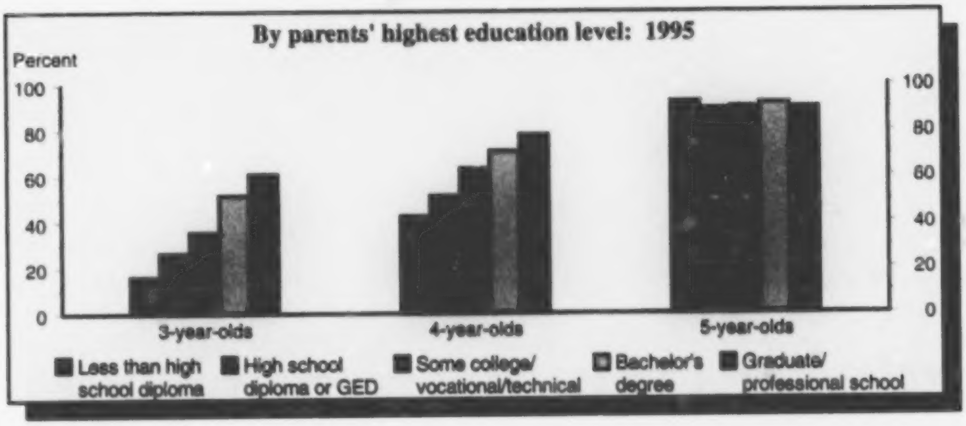
NOTE: Included in the total but not shown separately are children from other racial/ethnic groups and types of family structures. This analysis includes children aged 3–5 who were not enrolled in first grade.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey (NHES), 1991 (Early Childhood Education File), 1993 (School Readiness File), and 1995 (Early Childhood Program Participation File).

Percentage of 3-, 4-, and 5-year-olds enrolled in center-based programs* and kindergarten


Total enrollment rate: 1991, 1993, and 1995


By race/ethnicity: 1995


By parents' highest education level: 1995

* Center-based programs include nursery, prekindergarten, and Head Start programs.

NOTE: Included in the total but not shown separately are children from other racial/ethnic groups. This analysis includes children aged 3-5 who were not enrolled in first grade.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey (NHES), 1991 (Early Childhood Education File), 1993 (School Readiness File), and 1995 (Early Childhood Program Participation File).

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Early literacy activities in the home

Participating in literacy activities with family members provides valuable developmental experiences for young children. In addition to developing an interest in reading, children who are read to or told stories and who visit the library may start school better prepared to learn. Engaging young children in literacy activities at home also provides parents and family members with the opportunity to become actively involved in their children's education at an early age.

- In 1995, more than 80 percent of children aged 3–5 were read to or told a story in the past week by a parent or family member, while 41 percent had visited a library in the past month. The percentage of children who participated in these literacy activities increased between 1991 and 1995.
- In 1995, children aged 3–5 who were not enrolled in preprimary education were as likely to have been told a story at home at least once in the past week as those 3- to 5-year-olds who were enrolled in center-based programs or kindergarten. However, children aged 3–5 who were not enrolled in preprimary education were less likely to have visited a library in the past month than children who were enrolled in center-based programs or kindergarten.
- White children aged 3–5 were more likely to have been read to or told a story in the past week than their black and Hispanic counterparts. In addition, white children were more likely to have visited a library in the past month than their black and Hispanic peers.
- There was a positive relationship between the education level of parents and their children's participation in early literacy activities: As parents' education level increased, so did their children's participation rates in early literacy activities.

Percentage of children aged 3–5 who participated in various literacy activities with a parent or family member, by selected characteristics: 1991 and 1995

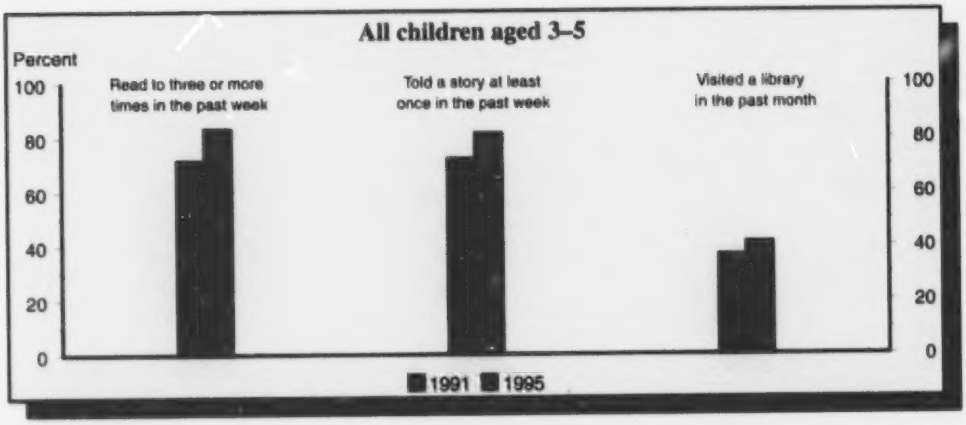
	Read to three or more times in the past week		Told a story at least once in the past week		Visited a library in the past month	
Selected characteristics	1991	1995	1991	1995	1991	1995
Total	**71.4**	**83.1**	**72.0**	**81.4**	**36.6**	**41.2**
School enrollment status and level						
Not enrolled	68.8	81.5	72.3	80.3	30.5	32.0
Center-based programs*	75.2	85.8	74.1	82.7	41.0	46.3
Kindergarten	71.1	81.3	68.8	81.0	41.7	47.3
Race/ethnicity						
White	77.7	89.0	73.8	83.9	40.7	45.1
Black	59.0	73.7	66.0	74.4	27.8	34.1
Hispanic	53.0	61.5	68.4	75.1	24.5	28.0
Parents' highest education level						
Less than high school diploma	53.8	64.4	67.4	71.9	18.3	18.3
High school diploma or GED	63.5	77.9	68.2	77.6	26.0	31.5
Some college/vocational/technical	74.0	85.3	74.2	82.9	38.5	40.9
Bachelor's degree	82.1	89.7	74.7	85.0	52.0	53.5
Graduate/professional school	88.3	94.0	78.4	88.2	59.1	62.8

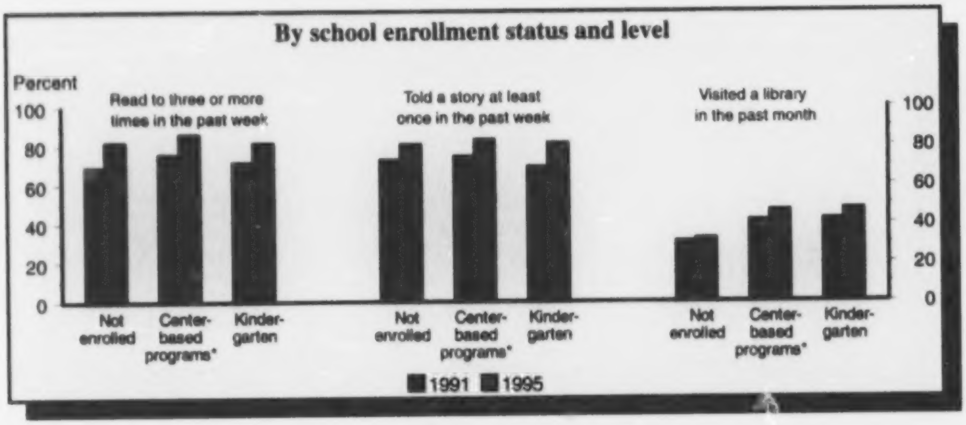
* Center-based programs include nursery, prekindergarten, and Head Start programs.

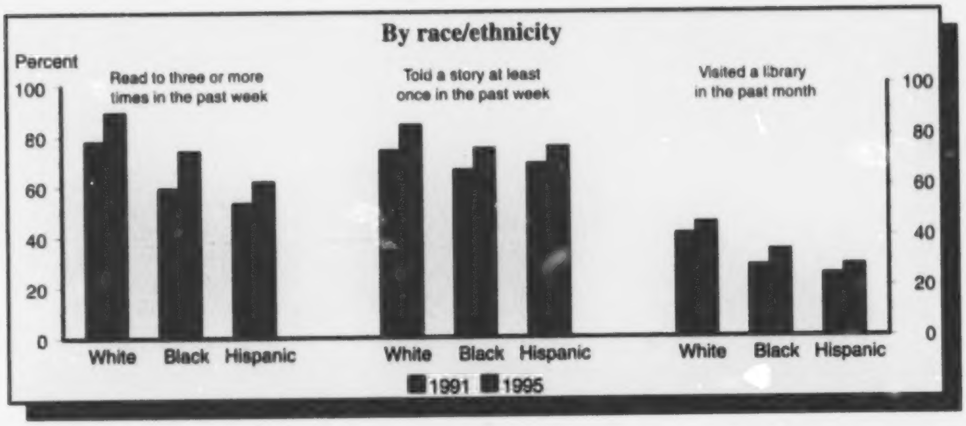
NOTE: Included in the total but not shown separately are children from other racial/ethnic groups. This analysis includes children aged 3–5 who were not enrolled in first grade.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey (NHES), 1991 (Early Childhood Education File) and 1995 (Early Childhood Program Participation File).

Percentage of children aged 3–5 who participated in various literacy activities with a parent or family member: 1991 and 1995







* Center-based programs include nursery, prekindergarten, and Head Start programs.

NOTE: Included in the total but not shown separately are children from other racial/ethnic groups. This analysis includes children aged 3–5 who were not enrolled in first grade.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey (NHES), 1991 (Early Childhood Education File) and 1995 (Early Childhood Program Participation File).

Early signs of school problems

Children who experience behavioral or academic problems early in school may be more likely to experience similar problems later on. Children with poor academic performance often require more individual time from teachers, and children who misbehave in school can disrupt the classroom environment for other students. Data on the extent of early behavioral and academic problems in school may help heighten school administrators' awareness of these problems among students with different background characteristics.

- Between 1991 and 1995, the percentage of first- and second-graders aged 6–8 whose parents reported that they had behavioral problems and problems with school work decreased (from 23 to 19 percent and 24 to 20 percent, respectively).
- Black first- and second-graders were more likely than their white and Hispanic peers to have their parents report that they had behavioral problems or problems with school work in 1995.
- The education level of parents was also related to their children's behavioral problems and problems with school work: Parents with a high school diploma or less were generally more likely to report that their children had these problems than parents with a bachelor's degree or higher.

Percentage of first- and second-graders aged 6–8 whose parents reported they had behavioral and/or academic problems in school, by selected characteristics: 1991 and 1995

Selected characteristics	Behavioral problems[1]		Problems with school work[1]		Academically below the middle of the class[2]	
	1991	1995	1991	1995	1991	1995
Total	**23.1**	**18.6**	**24.3**	**20.3**	—	**6.4**
Grade level						
First grade	23.7	19.1	23.0	18.9	—	5.6
Second grade	22.4	18.2	25.8	21.7	—	7.2
Race/ethnicity						
White	19.2	16.3	20.8	18.5	—	5.5
Black	35.1	31.6	31.4	29.2	—	10.6
Hispanic	29.5	18.4	34.8	21.3	—	6.6
Parents' highest education level						
Less than high school diploma	32.9	22.9	37.8	35.2	—	12.4
High school diploma or GED	24.7	23.3	25.7	21.3	—	6.9
Some college/vocational/technical	21.0	19.6	24.3	21.4	—	7.0
Bachelor's degree	17.6	10.5	18.6	14.8	—	4.0
Graduate/professional school	19.4	12.9	16.1	11.7	—	2.4

— Data for 1991 are not comparable to data for 1995.

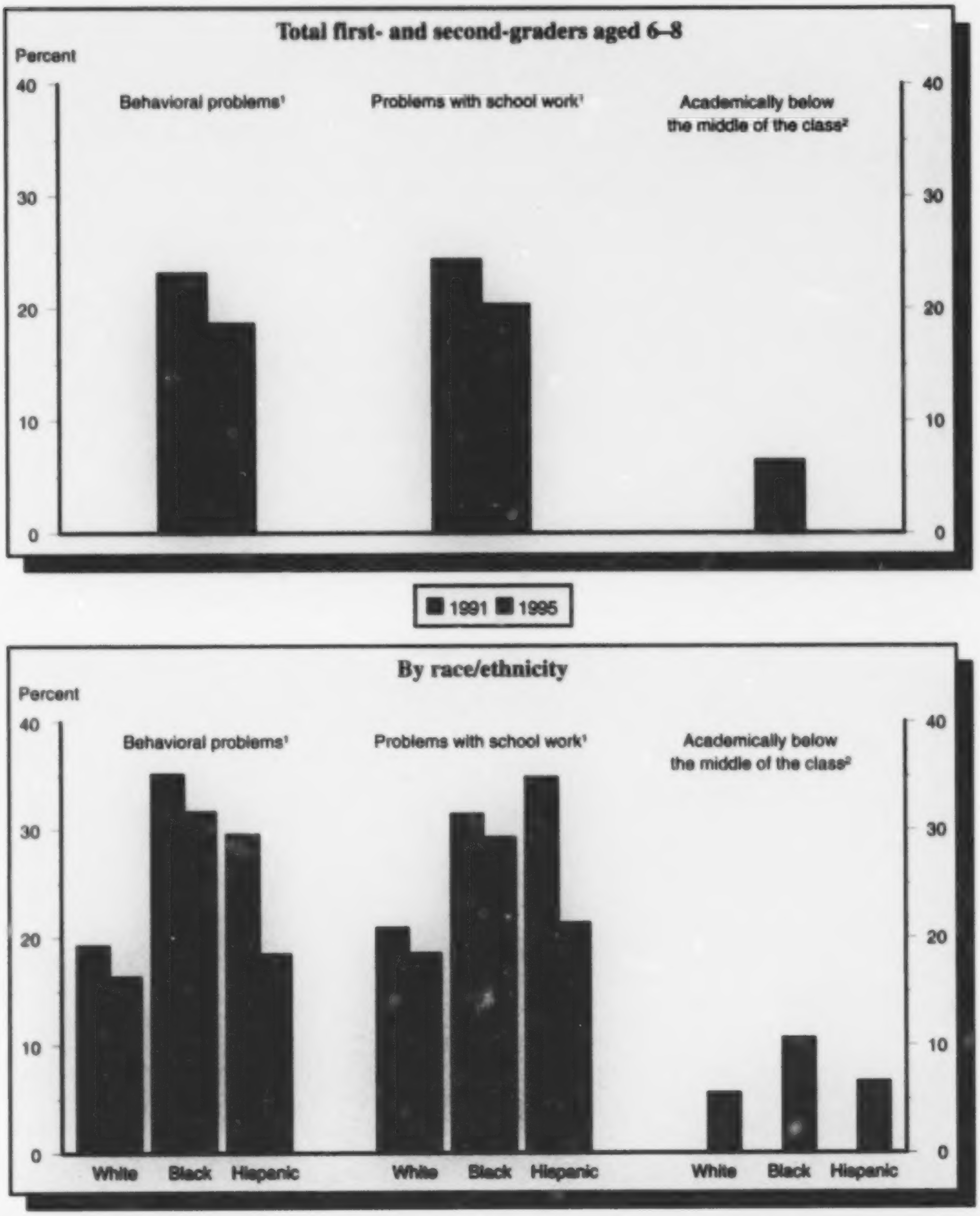
[1] "Behavioral problems" and "problems with school work" represent students whose parents reported that they had been contacted by the school about these types of problems.

[2] In 1995, parents were asked to rate how well their child was doing compared to other children in the class using the following scale: "near the top of the class," "above the middle of the class," "around the middle," "below the middle," or "near the bottom." Students whose parents answered "below the middle" or "near the bottom" were categorized as "academically below the middle of the class."

NOTE: Included in the total but not shown separately are children from other racial/ethnic groups.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey (NHES), 1991 (Early Childhood Education File) and 1995 (Early Childhood Program Participation File).

Percentage of first- and second-graders aged 6–8 whose parents reported they had behavioral and/or academic problems in school: 1991 and 1995



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[1] "Behavioral problems" and "problems with school work" represent students whose parents reported they had been contacted by the school about these types of problems.

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NOTE: Included in the total but not shown separately are children from other racial/ethnic groups.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey (NHES), 1991 (Early Childhood Education File) and 1995 (Early Childhood Program Participation File).

Grade retention, by English language usage and proficiency, and disability status

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Studies have shown that students who repeat at least one grade are more likely to drop out of school. Students who have difficulty speaking English or who have disabling conditions already start school at a disadvantage, and although retaining these students may be a way to allow them to "catch up" to their grade level peers, it may also further stigmatize them. Knowledge of the differences in relationships between grade retention and English language proficiency and/or disability status can help school administrators develop effective grade retention policies and services for these students.

- In 1995, 13 percent of students aged 5–17 spoke a language other than English at home; 5 percent had difficulty speaking English; and 8 percent had a disabling condition.

- The retention rate of children aged 5–17 who spoke Spanish at home in 1995 was similar to the retention rate of children aged 5–17 who spoke English at home (10 percent). However, retention rates varied by language spoken: The retention rate for children aged 5–17 who spoke only English at home was higher than that of children who spoke an Asian or other European language at home.

- Children aged 5–17 who had a disabling condition were more likely to repeat at least one grade in 1995 than were children aged 5–17 who did not have a disabling condition (25 versus 9 percent). The percentage of children aged 5–17 who had a disabling condition and who repeated at least one grade decreased between 1992 and 1995, declining from 29 to 25 percent, while the percentage of children who did not have a disabling condition and who repeated at least one grade remained similar.

Percentage of all children aged 5–17 and those who repeated at least one grade, by English language usage and proficiency, and disability status: October 1992 and 1995

English language usage and proficiency, and disability status	All children		Repeated at least one grade	
	1992	1995	1992	1995
Total 5- to 17-year-olds	**100.0**	**100.0**	**10.3**	**9.9**
Child spoke English at home	86.3	86.9	10.5	10.1
Child spoke a language other than English at home	13.7	13.1	9.3	9.0
Spanish	9.2	9.9	11.3	10.4
Other European	1.1	1.0	7.9	4.3
Asian	2.1	1.0	3.8	2.4
Other	1.0	1.2	5.8	6.6
Children who spoke a language other than English at home and:				
Had difficulty speaking English[1]	4.6	4.8	7.8	7.8
Did not have difficulty speaking English[1]	8.9	8.3	10.1	9.7
Had taken an ESL course	—	3.0	—	9.9
Had not taken an ESL course	—	10.1	—	8.7
Disability status				
No disabling condition	90.1	91.8	8.1	8.5
Had a disabling condition[2]	9.9	8.2	29.4	24.6
Learning disability	4.3	3.1	40.4	34.5
Speech impediment	2.5	1.3	24.0	22.2

— Not available.

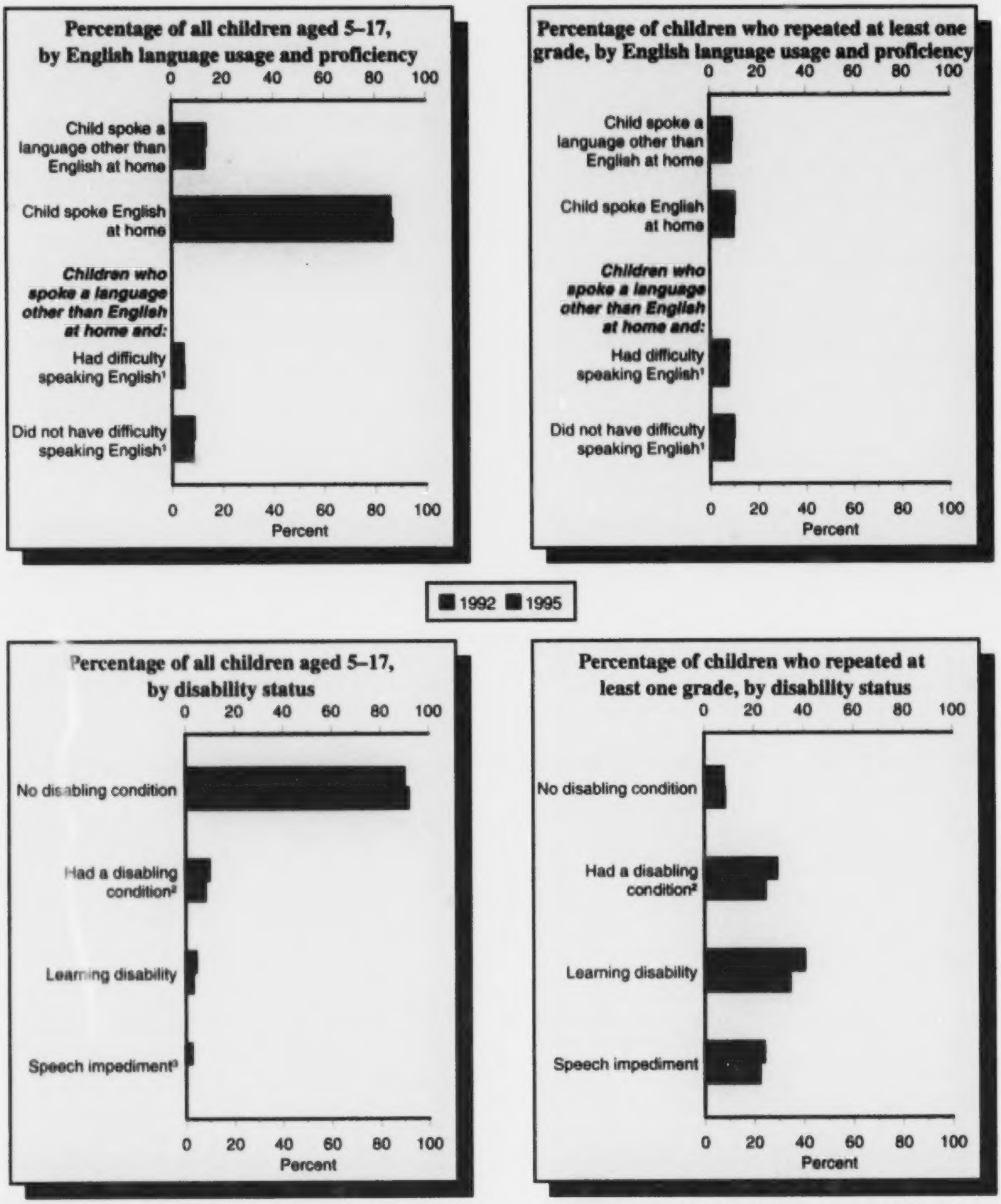
[1] Respondents were asked to rate the child's ability to speak English using the following scale: "not at all," "not well," "well," or "very well." If respondents answered "very well," children were categorized as not having difficulty speaking English; all others were categorized as having difficulty speaking English.

[2] Included in the totals are other disabling conditions not presented in the table.

NOTE: In 1992, a small number of those who reported speaking a language other than English at home did not respond to the question on what language was spoken. Details may not add to totals due to rounding.

SOURCE: U.S. Department of Commerce, Bureau of the Census, October Current Population Surveys, 1992 and 1995.

Percentage of all children aged 5–17 and those who repeated at least one grade: October 1992 and 1995



[1] Respondents were asked to rate the child's ability to speak English using the following scale: "not at all," "not well," "well," or "very well." If respondents answered "very well," children were categorized as not having difficulty speaking English; all others were categorized as having difficulty speaking English.

[2] Included in the totals are other disabling conditions not presented in the table.

[3] In 1995, the percentage of children aged 5–17 with a speech impediment was less than 2.0, and therefore the percentage is not discernable in the graph.

SOURCE: U.S. Department of Commerce, Bureau of the Census, October Current Population Surveys, 1992 and 1995.

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Student computer use

In our increasingly technological society, computers are an essential tool. Through computers, students can access information, manipulate data, and produce results in ways that were unimaginable just a short time ago. Early exposure to computers in school can help young people gain the technological literacy that will be crucial for success in tomorrow's schools, as well as tomorrow's jobs. Changes in the frequency of student computer use and the ways in which students are using computers are indicators of the degree to which they are taking advantage of the full power of these tools.

- Between 1984 and 1994, there was a large increase in the percentage of 4th-, 8th-, and 11th-grade students who reported using a computer at school at least once a week. This increase was paralleled by a similar decrease in the percentage of students who reported never using a computer at school.
- Younger students reported using computers more frequently than did older students. In 1994, 70 percent of 4th-graders reported using a computer at school at least once a week, compared with 46 percent of 8th-graders and 43 percent of 11th-graders. Older students were more likely to use computers every day, however.
- In 1994, more than two-thirds of 4th-graders and at least 80 percent of 8th- and 11th-graders reported using a computer to write stories or papers, a substantial increase from 1984. The percentage of students who reported using a computer to learn things also increased between 1984 and 1994 for all three grades, while the percentage of students who reported using a computer to play games remained relatively constant for 8th- and 11th-graders.
- Students from high income families have continued to be more likely to report using a computer than students from low income families. While the percentage of students who reported using a computer at school increased by similar amounts across family income levels, between 1984 and 1993, the increase in the percentage of students who reported using a computer at home was higher for students from families with higher incomes (see supplemental table 5-1).

Percentage of students who reported using a computer at school, by grade and frequency of use: Selected years 1984–94

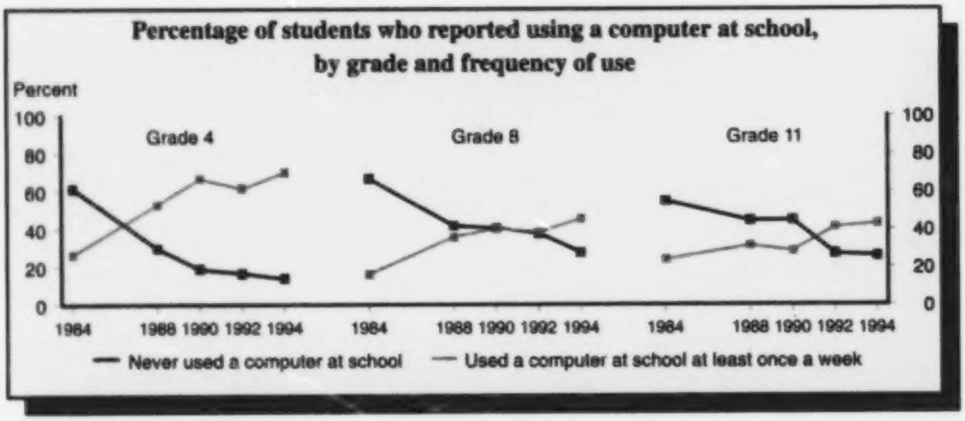
	Grade 4					Grade 8					Grade 11				
Frequency	1984	1988	1990	1992	1994	1984	1988	1990	1992	1994	1984	1988	1990	1992	1994
Never	61.2	29.8	18.9	16.5	14.0	66.7	41.8	40.5	37.6	27.7	55.0	44.7	44.9	27.2	26.1
Less than once a week	12.5	17.4	14.5	22.0	15.8	17.0	22.2	19.3	23.9	26.9	20.9	24.0	26.5	31.5	30.9
Once a week	15.5	34.2	41.1	37.0	39.6	8.1	13.9	12.9	12.8	16.1	5.7	6.4	6.6	10.8	8.0
2 or 3 times a week	7.6	15.0	17.7	18.6	22.8	4.6	12.2	16.0	15.1	14.5	6.3	9.7	8.3	11.3	12.4
Every day	3.2	3.6	7.8	5.9	7.7	3.6	9.8	11.3	10.5	14.9	12.1	15.2	13.7	19.2	22.6

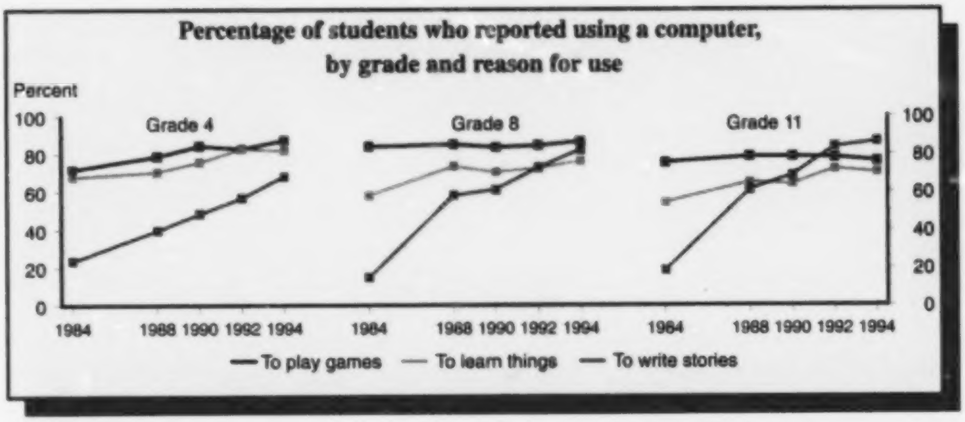
Percentage of students who reported using a computer, by grade and reason for use: Selected years 1984–94

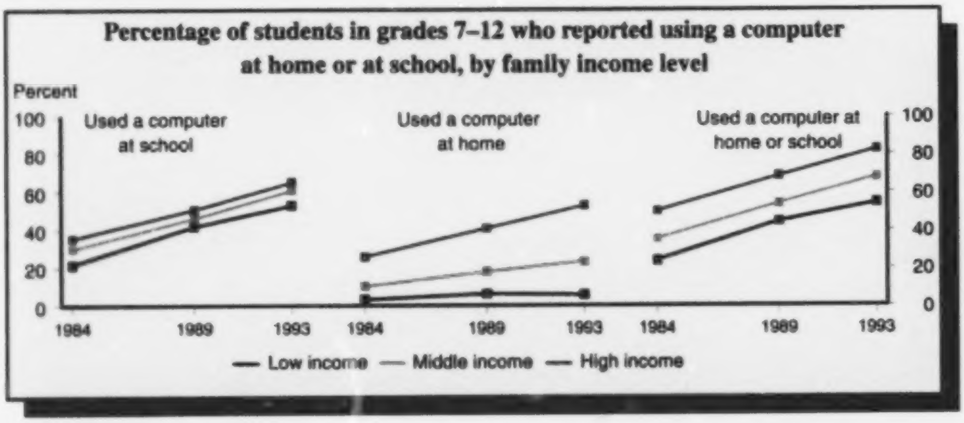
	Grade 4					Grade 8					Grade 11				
Reason	1984	1988	1990	1992	1994	1984	1988	1990	1992	1994	1984	1988	1990	1992	1994
To play games	71.8	79.0	84.5	82.8	87.4	84.1	85.3	83.7	84.7	86.8	75.7	78.9	79.0	78.4	76.6
To learn things	67.9	70.4	75.8	82.9	82.0	58.2	73.7	70.5	72.8	76.4	54.6	65.3	64.5	72.3	70.7
To write stories or papers	23.4	39.6	48.6	56.9	68.3	15.0	58.4	61.3	73.1	82.3	18.8	61.2	68.9	84.1	86.9

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Assessment of Educational Progress. *Almanac: Writing, 1984 to 1994*, 1996.

Percentage of students who reported using a computer: Selected years 1984–94


Percentage of students who reported using a computer at school, by grade and frequency of use


Percentage of students who reported using a computer, by grade and reason for use


Percentage of students in grades 7–12 who reported using a computer at home or at school, by family income level

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Assessment of Educational Progress, *Almanac: Writing, 1984 to 1994*, 1996. U.S. Department of Commerce, Bureau of the Census, October Current Population Surveys.

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School library media center resources

Historically, libraries have been an important component of the educational process, contributing to the success of the educational mission of schools. Education reform has prompted increased attention to the role school library media centers might play in the expanding role of computer- and technology-based education. However, policymakers have expressed concern that school library media centers have suffered from inadequate resources and support. Differences in library resources between schools can indicate how technology-based equipment and services are distributed as well as student accessibility to these resources.

- In school year 1993–94, about one-third of public school library media centers had computers with modems, automated circulation systems, and database searching capability with CD-ROM; 9 percent had on-line database searching capability; and 47 percent had the capability to use compact-disc-based periodical indices.
- Library media centers in public schools with less than 20 percent minority enrollment were more likely to have computers with modems, database searching capability with CD-ROM, and on-line database searching capability than library media centers in schools with 20 percent or more minority enrollment.
- In school year 1993–94, the availability of resources and services provided by library media centers was directly related to the poverty level of the school. For example, schools with low poverty levels (5 percent or less of students eligible for free or reduced-price lunch) were more likely than schools with high poverty levels (41 percent or more of students eligible for free or reduced-price lunch) to have library media centers equipped with computers with modems, an automated circulation system, database searching capability with CD-ROM, on-line database searching capability, and connection to the Internet.
- Public school library media centers were far more likely to have computers with modems, automated circulation systems, database searching capability with CD-ROM, and a connection to the Internet than were private school library media centers (see supplemental table 6-1).

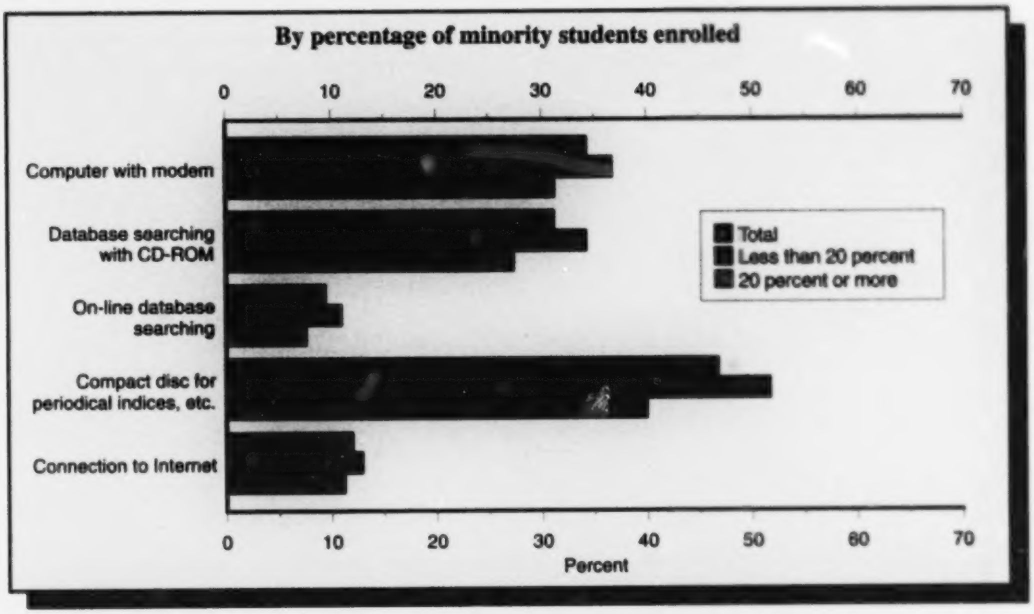
Percentage of public school library media centers that offered selected services and equipment, by selected school characteristics: School year 1993–94

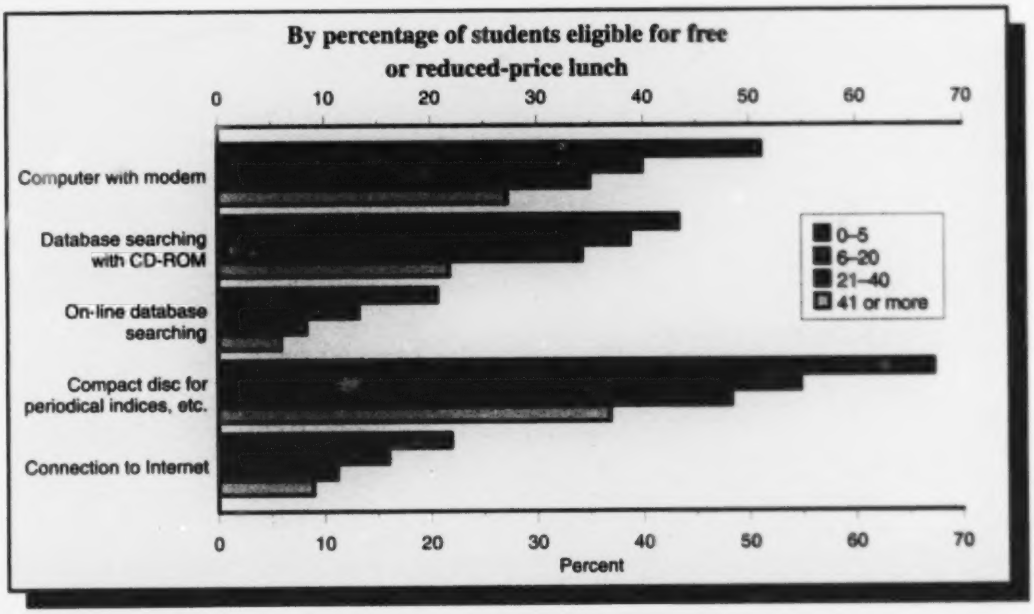
		Percentage of minority students enrolled		Percentage of students eligible for free or reduced-price lunch			
Selected services and equipment	Total	Less than 20 percent	20 percent or more	0–5	6–20	21–40	41 or more
Telephone	61.2	61.8	60.0	75.6	71.0	63.6	50.5
Fax machine	7.8	9.3	5.7	12.3	10.1	7.2	5.6
Computer with modem	34.3	36.8	31.2	51.2	40.0	35.1	27.3
Automated catalog	24.0	25.0	21.5	27.5	28.4	26.7	18.1
Automated circulation system	37.9	38.2	36.8	42.4	46.2	40.4	30.2
Database searching with CD-ROM	31.2	34.2	27.3	43.4	38.8	34.3	21.8
On-line database searching	9.4	10.9	7.6	20.7	13.3	8.3	5.9
Compact disc for periodical indices, etc.	46.7	51.7	40.0	67.4	54.8	48.3	36.9
Video laser disc	31.9	31.5	31.3	39.2	39.0	31.0	25.8
Connection to Internet	12.0	12.9	11.2	21.9	16.0	11.2	9.0
Cable television	76.2	78.6	72.3	80.7	79.4	77.5	73.5
Broadcast television	48.6	46.1	52.2	47.6	45.1	48.5	51.2
Closed circuit television	25.5	22.7	28.7	27.2	24.5	27.0	24.8
Satellite dish	22.9	24.9	21.7	21.6	23.0	24.7	23.8

NOTE: Percentages are based on schools that have library media centers. In school year 1990–91, 96 percent of public schools had library media centers.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey (Library Media Center Questionnaire), 1993–94.

Percentage of public school library media centers that offered selected services and equipment: School year 1993-94





NOTE: Percentages are based on schools that have library media centers. In school year 1990-91, 96 percent of public schools had library media centers.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey (Library Media Center Questionnaire), 1993-94.

Recent school dropouts

Students who drop out of school have fewer opportunities to succeed in the work force or to assume a fully functional place in society at large than those students who complete high school. The event dropout rate, a measure of the proportion of students who drop out in a single year without completing high school, is one of several ways to define dropout rates.

- In October 1995, 6 percent of students who were in grades 10–12 the previous October were not enrolled again and had not graduated from high school—that is, they dropped out of high school sometime during the year.
- In 1995, Hispanic students were more likely than white students to drop out (12 compared to 5 percent, respectively). Although the dropout rate for black students fell between the rates for Hispanic and white students, there were no measurable differences in the dropout rates of black and white students or in the rates of black and Hispanic students.
- Between 1990 and 1995, high school students whose parents did not finish high school were, on average, three times more likely to drop out than those students whose parents had at least some college education (see supplemental table 7-1).

Event dropout rates[1] for those in grades 10–12, aged 15–24, by sex, race/ethnicity, and family income: Selected Octobers 1972–95

		Sex		Race/ethnicity[2]			Family income[3]		
October	Total	Male	Female	White	Black	Hispanic	Low	Middle	High
1972	6.1	5.9	6.3	5.3	9.5	11.2	14.1	6.7	2.5
1974	6.7	7.4	6.0	5.8	11.6	9.9	—	—	—
1976	5.9	6.6	5.2	5.6	7.4	7.3	15.4	6.8	2.1
1978	6.7	7.5	5.9	5.8	10.2	12.3	17.4	7.3	3.0
1980	6.1	6.7	5.5	5.2	8.2	11.7	15.8	6.4	2.5
1982	5.5	5.8	5.1	4.7	7.8	9.2	15.2	5.6	1.8
1984	5.1	5.4	4.8	4.4	5.7	11.1	13.9	5.1	1.8
1986	4.7	4.7	4.7	3.7	5.4	11.9	10.9	5.1	1.6
1988	4.8	5.1	4.4	4.2	5.9	10.4	13.7	4.7	1.3
1990	4.0	4.0	3.9	3.3	5.0	7.9	9.5	4.3	1.1
1991	4.0	3.8	4.2	3.2	6.0	7.3	10.6	4.0	1.0
1992	4.4	3.9	4.9	3.7	5.0	8.2	10.9	4.4	1.3
1993	4.5	4.6	4.3	3.9	5.8	6.7	12.3	4.3	1.3
1994[4]	5.3	5.2	5.4	4.2	6.6	10.0	13.0	5.2	2.1
1995[4]	5.7	6.2	5.3	4.5	6.4	12.4	13.3	5.7	2.0

— Not available.

[1] The event dropout rate is the percentage of those in grades 10–12, aged 15–24, who were enrolled the previous October, but who were not enrolled and had not graduated the following October.

[2] Included in the total but not shown separately are dropouts from other racial/ethnic groups.

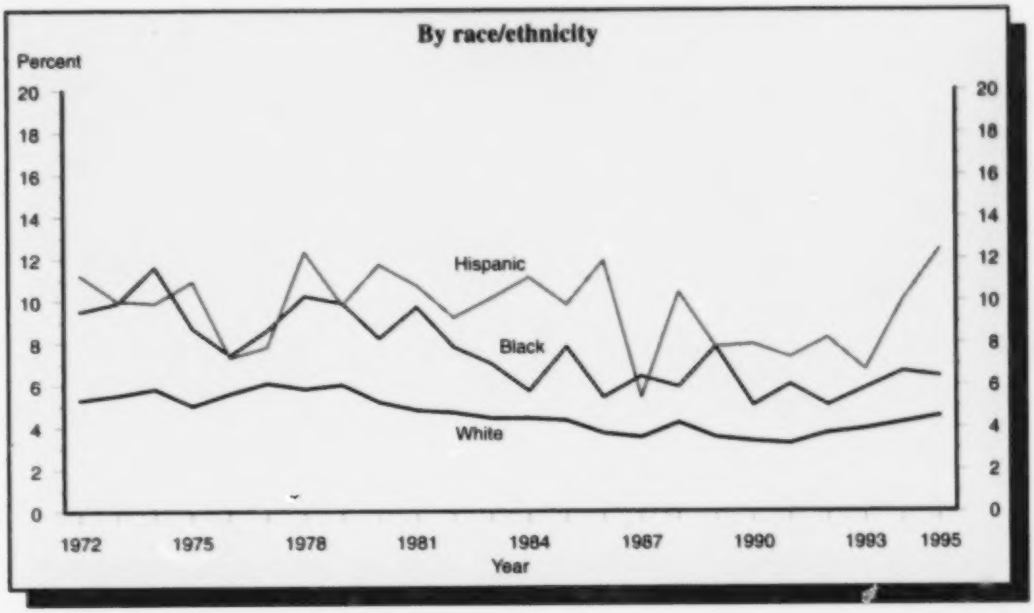
[3] Low income is the bottom 20 percent of all family incomes; high income is the top 20 percent of all family incomes; and middle income is the 60 percent in-between.

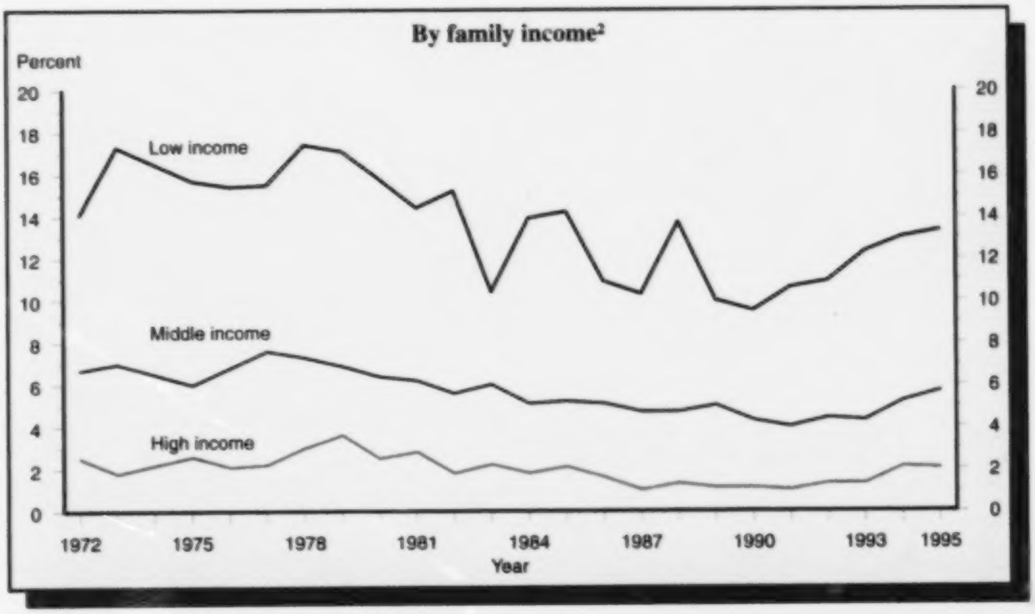
[4] In 1994, new survey collection techniques and population weighting were used. See the supplemental note to this indicator for further discussion.

NOTE: Beginning in 1992, the Current Population Survey (CPS) changed the questions used to obtain the educational attainment of respondents. See the supplemental note to this indicator for further discussion.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Dropout Rates in the United States: 1995* (based on the October Current Population Surveys).

Event dropout rates[1] for those in grades 10–12, aged 15–24: October 1972–95





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[1] The event dropout rate is the percentage of those in grades 10–12, aged 15–24, who were enrolled the previous October, but who were not enrolled and had not graduated the following October.

[2] Low income is the bottom 20 percent of all incomes; high income is the top 20 percent of all incomes; and middle income is the 60 percent in-between.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Dropout Rates in the United States, 1995* (based on the October Current Population Surveys).

Immediate transition from high school to college

Since most college students enroll in college immediately after completing high school, the percentage of high school graduates enrolled in college the October following graduation is an indicator of the total proportion of that year's high school graduates who will ever enroll in college. The percentage enrolling not only reflects the accessibility of higher education to high school graduates but also shows their assessment of the value of attending college as compared to working, entering the military, traveling, or other possible pursuits.

- Between 1972 and 1995, the proportion of high school graduates going directly to college increased from 49 to 62 percent.
- Between 1972 and 1995, high school graduates from high income families were more likely than high school graduates from low income families to go directly to college.
- Between 1990 and 1995, the higher the education level of a student's parents, the more likely the student was to enroll in college the year after high school graduation (see supplemental table 8-1).
- In 1995, black high school graduates were less likely than their white counterparts to go directly to college (51 compared to 64 percent, respectively).

Percentage of high school graduates aged 16–24 who were enrolled in college the October following graduation, by type of institution, family income, and race/ethnicity: Selected Octobers 1972–95

		Type of institution		Family income[1]			Race/ethnicity[2]		
October	Total	2-year	4-year	Low	Middle	High	White	Black	Hispanic
1972	49.2	—	—	26.1	45.2	63.8	49.7	44.6	45.0
1973	46.6	14.9	31.7	20.3	40.9	64.4	47.8	32.5	54.1
1975	50.7	18.2	32.6	31.2	46.2	64.5	51.1	41.7	58.0
1977	50.6	17.5	33.1	27.7	44.2	66.3	50.8	49.5	50.8
1979	49.3	17.5	31.8	30.5	43.2	63.2	49.9	46.7	45.0
1981	53.9	20.5	33.5	33.6	49.2	67.6	54.9	42.7	52.1
1983	52.7	19.2	33.5	34.6	45.2	70.3	55.0	38.2	54.2
1985	57.7	19.6	38.1	40.2	50.6	74.6	60.1	42.2	51.0
1987	56.8	18.9	37.9	36.9	50.0	73.8	58.6	52.2	33.5
1989	59.6	20.7	38.9	48.1	55.4	70.7	60.7	53.4	55.1
1990	60.1	20.1	40.0	46.7	54.4	76.6	63.0	46.8	42.7
1991	62.5	24.9	37.7	39.5	58.4	78.2	65.4	46.4	57.2
1992	61.9	23.0	38.9	40.9	57.0	79.0	64.3	48.2	55.0
1993	61.5	22.4	39.1	50.4	56.9	79.3	62.9	55.6	62.2
1994	61.9	21.0	40.9	41.0	57.8	78.4	64.5	50.8	49.1
1995	61.9	21.5	40.4	34.2	56.1	83.4	64.3	51.2	53.7

— Not available. Data regarding type of institution were not collected until 1973.

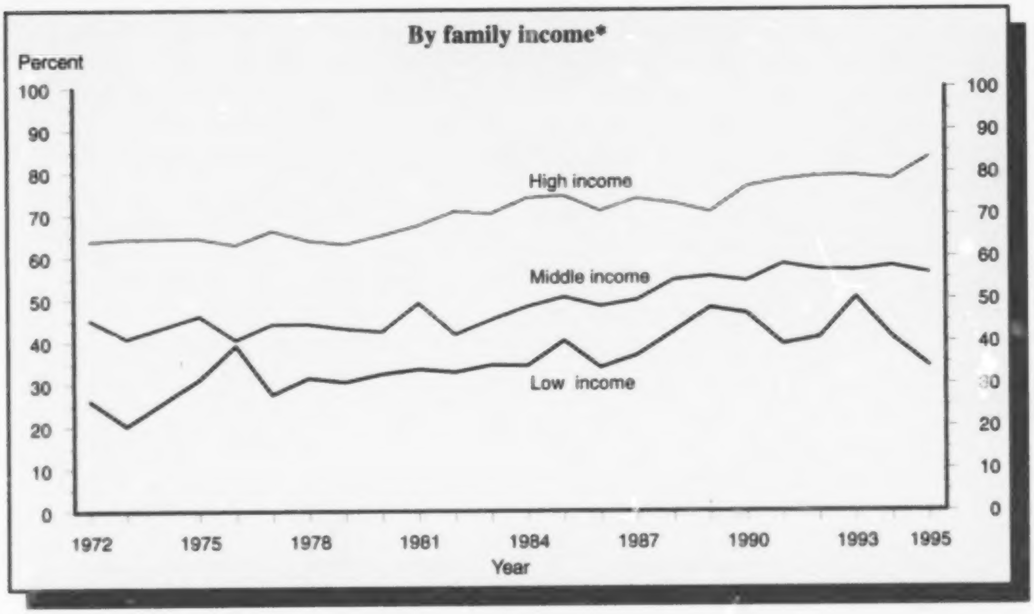
[1] Low income is the bottom 20 percent of all family incomes; high income is the top 20 percent of all family incomes; and middle income is the 60 percent in-between. Data for 1994 income are revised from previously published figures.

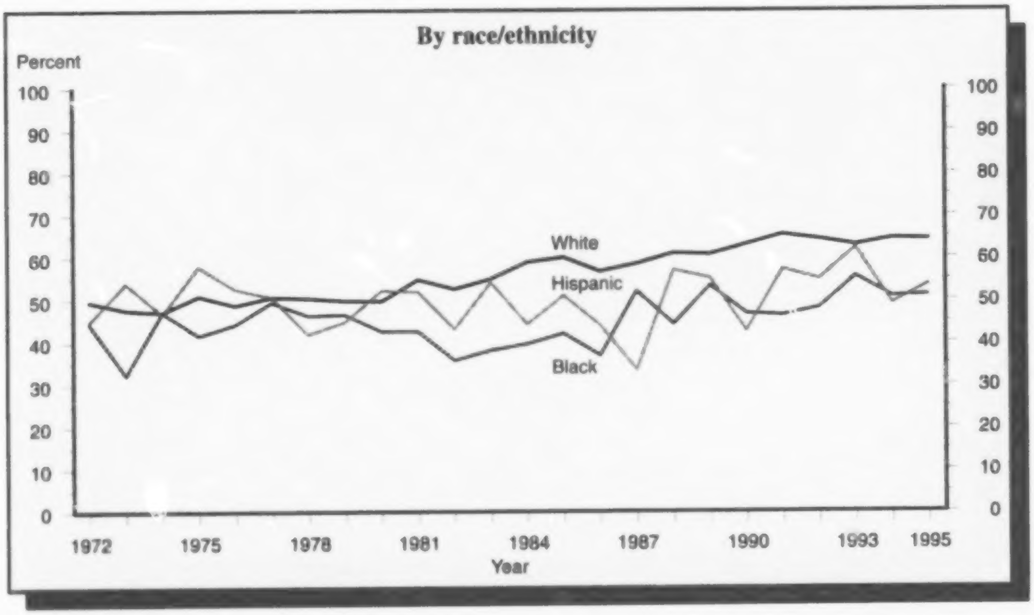
[2] Included in the total but not shown separately are high school graduates from other racial/ethnic groups.

NOTE: Details may not add to totals due to rounding.

SOURCE: U.S. Department of Commerce, Bureau of the Census, October Current Population Surveys.

Percentage of high school graduates aged 16–24 who were enrolled in college the October following graduation: October 1972–95





* Low income is the bottom 20 percent of all family incomes; high income is the top 20 percent of all family incomes; and middle income is the 60 percent in-between. Data on family income for 1974 are not available, and 1994 data are revised from previously published figures.

SOURCE: U.S. Department of Commerce, Bureau of the Census, October Current Population Surveys.

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Postsecondary enrollment rates among the high school classes of 1972, 1980, and 1992

As the earnings gap between high school and college graduates widens, postsecondary education becomes more attractive to graduating high school seniors. The proportion of seniors enrolling in postsecondary programs after graduation is a measure of access to postsecondary education, as well as its perceived value among students. Comparing these enrollment rates across several years may indicate changes in access to and the perceived value of postsecondary education.

- The percentage of high school seniors enrolling in any postsecondary institution within 2 years of their scheduled graduation increased from 61 percent of the class of 1972 to 72 percent of the class of 1992.

- Between 1974 and 1994, enrollment rates in 2-year institutions increased 8 percentage points, and enrollment rates in 4-year institutions increased 7 percentage points. During the same period, enrollment rates in vocational, technical, and trade schools declined (see supplemental table 9-1).

- Between 1974 and 1994, postsecondary enrollment rates of low and high socioeconomic status (SES) students increased similar amounts (7 and 6 percentage points), but in different types of institutions. Postsecondary enrollment rates of low SES students increased at 2-year institutions only, while postsecondary enrollment rates of high SES students increased at 4-year institutions.

- In 1994, within achievement test quartiles, low SES students were less likely than high SES students to enroll in 4-year institutions, except low SES students in the top two achievement test quartiles were more likely to enroll in 2-year institutions than their high SES counterparts.

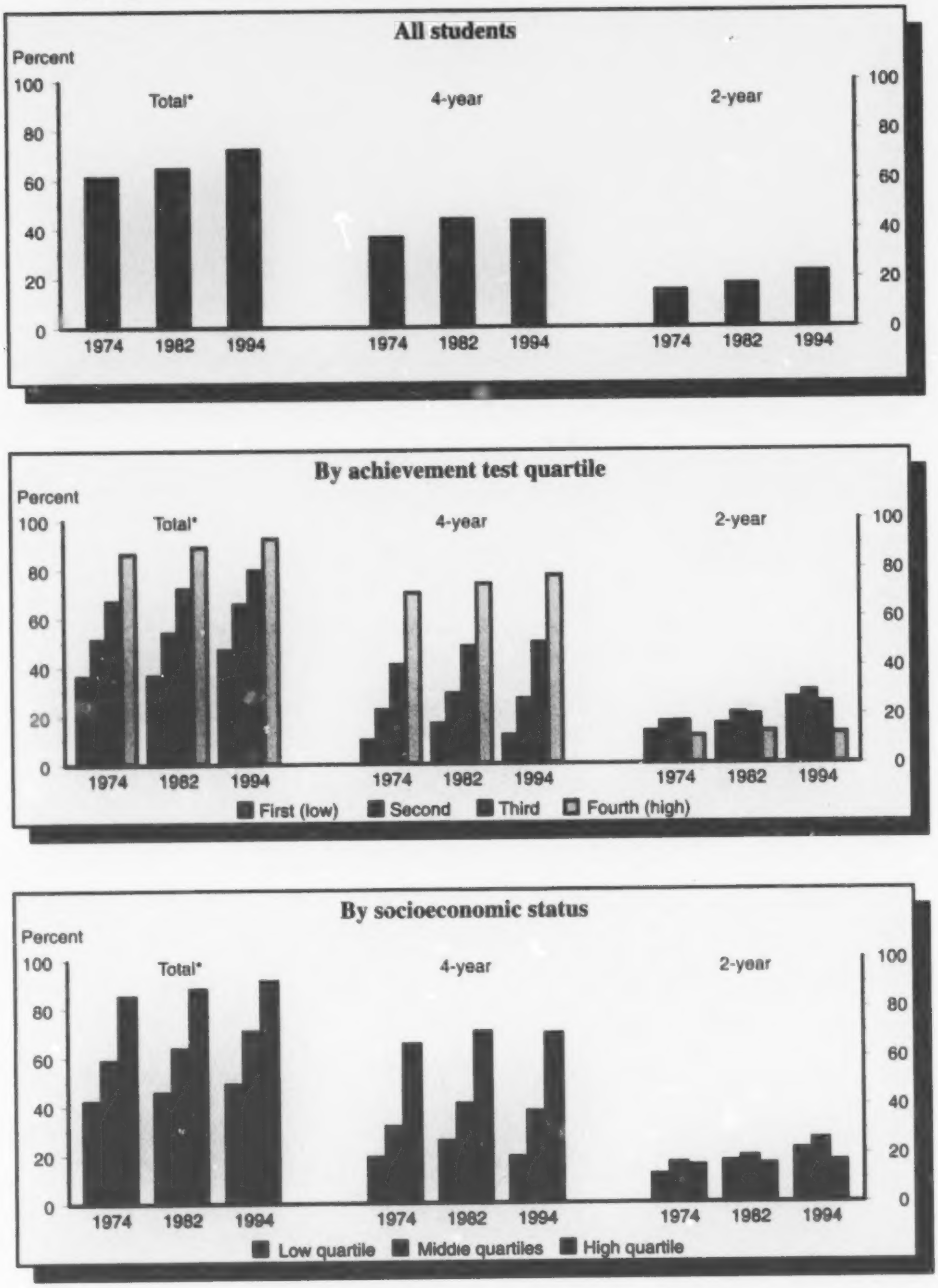
Percentage of students who attended a postsecondary institution within 2 years following scheduled high school graduation, by socioeconomic status, achievement test quartile in high school, and highest level of institution attended: 1974, 1982, and 1994

Achievement test quartile and type of of institution	Senior in 1972				Senior in 1980				Senior in 1992			
		Socioeconomic status				Socioeconomic status				Socioeconomic status		
	Total	Low quartile	Middle quartiles	High quartile	Total	Low quartile	Middle quartiles	High quartile	Total	Low quartile	Middle quartiles	High quartile
Total*	**61.1**	**42.0**	**58.9**	**85.1**	**64.6**	**45.5**	**63.7**	**88.1**	**72.3**	**48.9**	**70.7**	**91.3**
Achievement test quartile in high school												
First (low)	36.0	31.2	36.5	57.9	36.2	30.7	35.5	65.8	46.8	35.9	49.4	77.3
Second	51.2	40.8	49.5	73.8	53.8	43.8	51.5	79.3	65.6	50.2	66.2	85.3
Third	66.9	48.8	64.3	84.0	72.0	57.9	70.7	88.5	79.6	62.5	78.7	90.3
Fourth (high)	86.4	69.7	82.5	94.6	89.2	72.8	87.6	95.3	92.6	77.6	89.3	96.7
4-year	**36.5**	**18.8**	**31.3**	**65.1**	**43.7**	**25.5**	**40.7**	**70.3**	**43.1**	**18.9**	**37.6**	**69.5**
Achievement test quartile in high school												
First (low)	9.9	9.1	8.8	20.2	16.4	13.2	15.1	39.3	11.6	8.0	11.9	24.8
Second	22.3	16.0	19.5	41.1	28.7	20.9	26.0	50.9	26.6	15.8	26.4	42.3
Third	40.6	24.9	35.3	61.2	48.3	34.7	46.3	66.4	49.5	30.7	44.0	69.5
Fourth (high)	70.2	48.2	61.2	85.0	73.7	54.3	68.6	84.6	77.2	58.4	69.1	85.8
2-year	**14.8**	**11.4**	**16.4**	**15.1**	**17.4**	**16.6**	**18.8**	**15.7**	**22.4**	**21.8**	**25.8**	**16.7**
Achievement test quartile in high school												
First (low)	13.0	10.4	13.7	22.5	16.0	13.8	15.7	24.6	26.5	20.2	28.2	42.8
Second	16.8	11.4	17.3	24.5	20.5	19.8	20.4	23.0	29.5	24.3	31.0	32.3
Third	17.0	12.2	18.2	17.9	19.7	19.3	19.7	19.8	24.8	26.8	28.0	17.7
Fourth (high)	11.1	11.7	13.9	8.1	13.0	15.2	15.6	9.5	12.3	14.6	17.1	8.1

* Included in the total but not shown separately are those students who attended vocational, technical, and trade schools.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Longitudinal Study of the High School Class of 1972 (NLS-72), First Follow-up (1974); High School and Beyond (HS&B) study, Senior Cohort, Third Follow-up Survey (1986); and National Education Longitudinal Study of 1988 (NELS:88), Second (1992) and Third Follow-up (1994).

Percentage of students who attended a postsecondary institution within 2 years following scheduled high school graduation, by highest level of institution attended: 1974, 1982, and 1994



All students

By achievement test quartile

By socioeconomic status

[*] Included in the total but not shown separately are those students who attended vocational, technical, and trade schools.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Longitudinal Study of the High School Class of 1972 (NLS-72) First Follow-up (1974); High School and Beyond (HS&B) study, Senior Cohort, Third Follow-up Survey (1986); and National Education Longitudinal Study of 1988 (NELS:88), Second (1992) and Third Follow-up (1994).

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Racial and ethnic differences in participation in higher education

Racial and ethnic differences in college enrollment rates may reflect differences in access to and persistence in higher education for groups with varying social and economic backgrounds. Differing enrollment rates are also a leading indicator of future differences in the earnings and productivity associated with postsecondary education. The college enrollment rate for 18- to 24-year-olds is influenced by the number who enroll immediately after graduating from high school, the number who delay entry, and the number of years individuals in both of these groups stay in higher education.

- Between 1993 and 1995, white high school graduates aged 18–24 were more likely to be enrolled in college than were their black and Hispanic counterparts. For these years, the average enrollment rate for whites was 9 percentage points higher than that of both blacks and Hispanics.
- The percentage of high school graduates aged 18–24 enrolled in college was higher in 1995 than in 1972 for whites and blacks. During this period, the college enrollment rates for whites grew substantially (11 percentage points), with most of the growth occurring after 1981. College enrollment rates for blacks of the same age group grew moderately over the period (8 percentage points).
- Between 1993 and 1995, enrollment rates in 2-year institutions were similar for white and black high school graduates aged 18–24, while Hispanics were more likely than whites or blacks to be enrolled in 2-year institutions. However, both black and Hispanic high school graduates aged 18–24 were substantially less likely to be enrolled in 4-year institutions than were their white counterparts (see supplemental table 10-1).
- Enrollment rates for older adults, high school graduates aged 25 or older, were much lower than those for their younger counterparts aged 18–24 regardless of racial and ethnic group. Between 1993 and 1995, college enrollment rates were similar for white, black, and Hispanic high school graduates aged 25–34.

Percentage of high school graduates enrolled in college, by age and race/ethnicity: Selected Octobers 1972–95

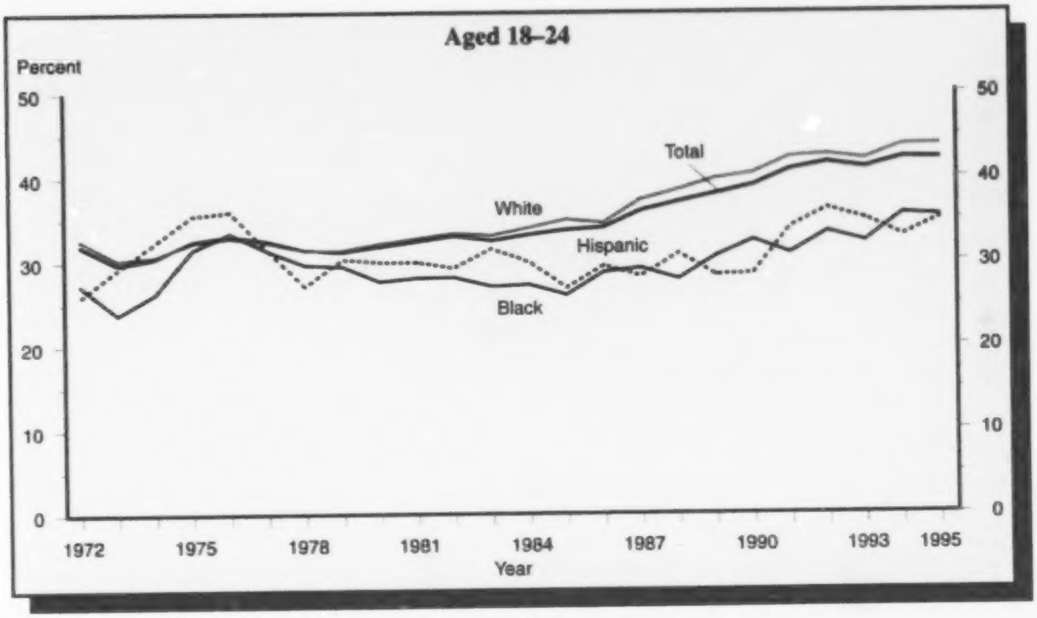
	Aged 18–24				Aged 25–34				Aged 35 or older			
October	Total	White	Black	Hispanic	Total	White	Black	Hispanic	Total	White	Black	Hispanic
1972	31.9	32.6	27.2	25.8	8.4	8.4	8.8	7.5	—	—	—	—
1974	30.5	30.6	26.2	32.3	9.3	9.1	10.8	10.0	—	—	—	—
1976	33.1	32.8	33.4	35.9	9.6	9.2	11.9	11.0	2.3	2.1	4.1	3.9
1978	31.4	31.3	29.6	27.1	9.1	8.8	10.8	10.2	2.4	2.2	3.8	4.2
1980	31.8	32.1	27.6	29.9	8.9	8.7	9.6	9.2	2.1	2.0	3.4	2.9
1982	33.0	33.3	28.1	29.2	8.9	8.7	9.6	9.7	2.2	2.1	2.7	2.9
1984	33.2	33.9	27.2	29.9	8.6	8.4	8.0	9.9	2.1	2.0	2.7	1.8
1986	34.0	34.5	28.6	29.4	8.3	7.9	7.9	10.4	2.4	2.2	3.3	3.4
1988	37.0	38.4	27.8	30.8	8.0	7.8	7.5	7.8	2.7	2.6	3.3	3.4
1990	39.0	40.3	32.4	28.4	8.6	8.7	5.9	7.0	2.7	2.6	2.9	3.9
1991	40.8	42.3	30.8	33.9	9.0	8.7	8.1	8.6	2.7	2.6	3.4	2.9
1992	41.6	42.5	33.4	36.1	8.6	8.5	6.7	8.5	2.5	2.5	2.6	2.7
1993	41.0	42.0	32.2	34.9	8.5	8.2	8.1	9.5	2.6	2.4	3.3	3.1
1994	42.2	43.6	35.5	32.9	9.5	9.1	9.7	10.1	2.7	2.5	3.5	4.3
1995	42.1	43.7	35.2	34.9	9.4	9.3	9.1	8.0	2.6	2.4	3.5	3.8

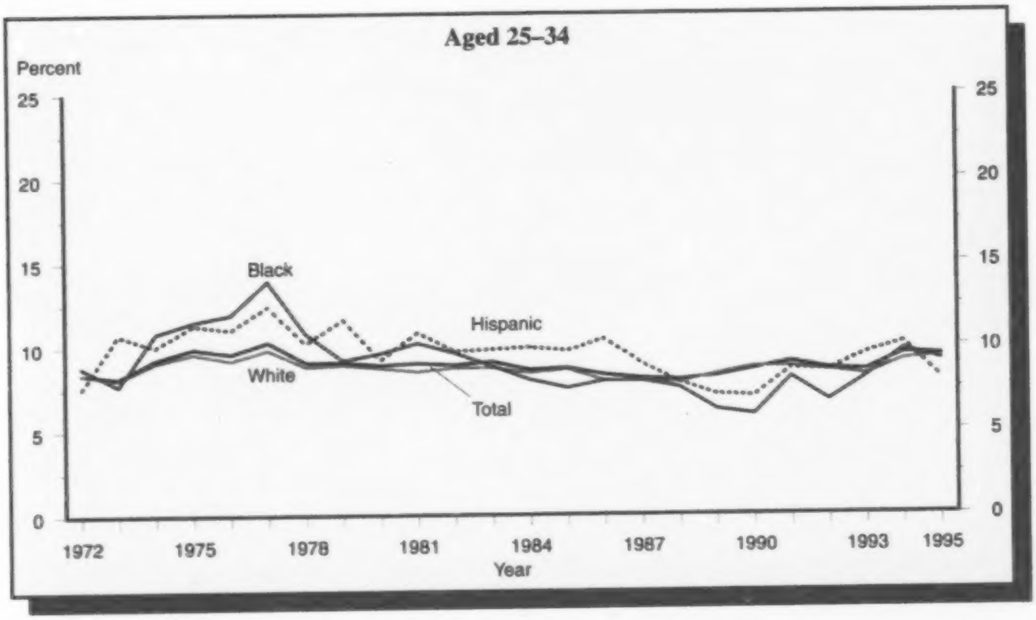
— Not available.

NOTE: Included in the total but not shown separately are high school graduates from other racial/ethnic groups.

SOURCE: U.S. Department of Commerce, Bureau of the Census, October Current Population Surveys.

Percentage of high school graduates enrolled in college, by age and race/ethnicity: October 1972–95





NOTE: Included in the total but not shown separately are high school graduates from other racial/ethnic groups.

SOURCE: U.S. Department of Commerce, Bureau of the Census, October Current Population Surveys.

Subbaccalaureate persistence and attainment

About half of first-time beginning students report working toward either an associate's degree or a certificate. These subbaccalaurate programs can offer occupationally specific training for immediate transition into the labor market or serve as a stepping stone to bachelor's degree programs. To help ensure successful outcomes for the increasing number of students seeking these credentials, it is crucial to understand the particular enrollment patterns associated with their completion.

- Forty-three percent of 1989–90 beginning postsecondary students seeking an associate's degree had attained some degree or certificate 5 years after initial enrollment: 8 percent earned a bachelor's degree; slightly less than a quarter (23.7 percent) earned an associate's degree; and 11 percent earned a certificate. Students who did not earn a degree were enrolled for an average of 19 months.
- Certificate seekers were more likely than associate's degree seekers to attain a postsecondary credential (55 versus 43 percent, respectively). Within 5 years of initial enrollment in postsecondary education, half (50 percent) had earned a certificate, and 4 percent had earned an associate's degree. Students who had not earned a credential were enrolled an average of 11 months.
- Regardless of initial degree objective, students who enrolled full time were more likely to attain either the degree they sought or a bachelor's degree than those who were enrolled less than full time.
- Associate's degree seekers who delayed entry into postsecondary education by at least 1 year were much less likely to complete an associate's or bachelor's degree within 5 years than their counterparts who did not delay.

Percentage distribution of 1989-90 beginning postsecondary students seeking an associate's degree or certificate, by persistence and attainment as of spring 1994 and selected enrollment characteristics

	Completed a degree				Did not complete a degree					
	Highest degree completed			Total	Total	Number of months enrolled[1]				Average
Enrollment characteristics	Bachelor's	Associate's	Certificate	any degree	no degree	Less than 9 months	9–18 months	19–27 months	28 months or more	months enrolled
Degree working toward in 1989-90[2]										
Associate's degree	7.5	23.7	11.4	42.6	57.4	12.8	20.5	9.4	14.8	19.2
Certificate	0.5	4.3	49.7	54.5	45.5	22.7	15.7	4.4	2.8	10.5
Enrollment status, first term										
Full-time										
Associate's degree	12.0	30.0	9.7	51.6	48.4	9.4	17.6	9.9	11.5	19.0
Certificate	0.7	4.5	56.3	61.5	38.5	23.1	11.6	1.8	2.0	8.8
Less than full-time										
Associate's degree	2.1	15.5	13.1	30.7	69.3	16.5	23.7	9.2	20.0	20.0
Certificate	0.0	2.8	38.5	41.4	58.7	22.8	23.8	7.5	4.5	12.3
Delayed entry status[3]										
Did not delay										
Associate's degree	11.9	32.1	10.0	54.0	46.0	9.1	13.4	7.6	16.0	22.5
Certificate	0.9	8.2	49.8	58.9	41.1	15.4	15.8	5.8	4.1	13.2
Delayed entry by at least 1 year										
Associate's degree	1.4	12.2	12.9	26.5	73.5	18.7	26.5	13.2	15.2	17.0
Certificate	0.2	2.9	51.2	54.3	45.7	24.7	15.2	3.3	2.5	9.9

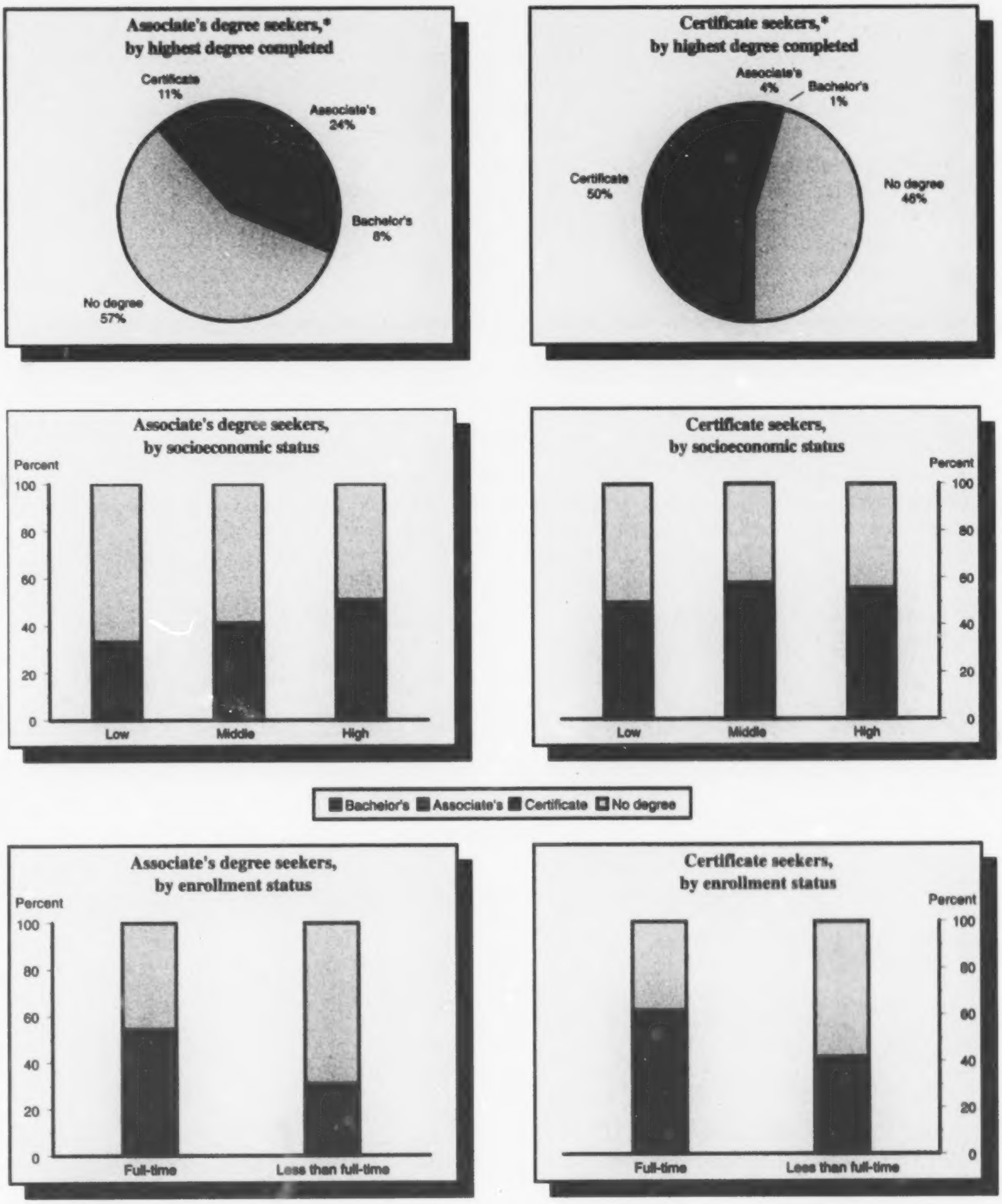
[1] Includes students who were still enrolled.

[2] Limited to students seeking an associate's degree at 2-year institutions and students seeking a certificate at 2-year and less-than-2-year institutions.

[3] Excludes students with no high school diploma.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1990 Beginning Postsecondary Students Longitudinal Study, Second Follow-up (BPS: 90/94).

Percentage of 1989–90 postsecondary students seeking an associate's degree or certificate according to highest degree completed as of spring 1994



* Limited to students seeking an associate's degree at 2-year institutions and students seeking a certificate at 2-year and less-than-2-year institutions.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1990 Beginning Postsecondary Students Longitudinal Study, Second Follow-up (BPS:90/94).

College costs and family income

Families' ability to afford college for their children depends on many factors, including tuition levels, availability of financial aid, family income and assets, and family size. Tuition, room, and board are a measure of the gross price of college. The average cost for tuition, room, and board as a percentage of family income is an indicator of the affordability of a college education.

- Between 1980 and 1995, college costs (tuition, room, and board) rose in both public and private institutions, but increased more at private colleges (from $9,908 to $17,474, in 1996 constant dollars) than at public colleges (from $4,298 to $6,349 in 1996 constant dollars).

- After a period of decline in the 1960s and 1970s, average tuition, room, and board at public institutions rose to 15 percent of median family income in 1993 and has remained stable since. At private institutions, the pattern was similar, but average tuition, room, and board as a percentage of median family income increased to 42 percent of median family income in 1995.

- Between 1980 and 1995, tuition, room, and board at public institutions increased from 11 to 15 percent of median family income. This increase was larger for lower income families than for higher income families: It increased from 22 to 32 percent for families at the 20th percentile of family income, compared to an increase from 7 to 9 percent for families at the 80th percentile.

Average undergraduate tuition, room, and board (in 1996 constant dollars) as a percentage of selected percentiles of income of all families, by control of institution: Selected years 1964–95

	Public institutions				Private institutions			
	Tuition, room, and board	Family income percentile			Tuition, room, and board	Family income percentile		
Year		20th	50th	80th		20th	50th	80th
1964	$4,772	29.0	14.4	9.2	$9,580	58.3	28.8	18.6
1966	4,891	25.6	13.4	8.7	10,124	53.1	27.7	17.9
1968	4,914	24.0	12.6	8.1	10,210	49.8	26.2	16.9
1970	5,083	24.7	12.7	8.1	10,814	52.5	27.1	17.2
1972	5,344	25.4	12.8	8.0	11,135	52.9	26.7	16.7
1974	4,735	22.5	11.5	7.2	10,309	48.9	25.1	15.7
1976	4,783	23.3	11.6	7.3	10,442	50.9	25.3	15.8
1978	4,567	21.8	10.8	6.6	10,339	49.3	24.4	15.0
1979	4,376	20.7	10.3	6.4	9,927	46.9	23.4	14.6
1980	4,298	21.9	10.7	6.5	9,908	50.6	24.7	15.1
1982	4,708	25.9	12.4	7.2	11,062	60.7	29.0	17.0
1984	5,056	26.8	12.7	7.4	12,167	64.5	30.5	17.8
1986	5,367	27.0	12.7	7.4	13,648	68.7	32.4	18.9
1988	5,533	27.6	13.0	7.5	14,486	72.3	33.9	19.5
1990	5,573	27.6	13.1	7.5	15,126	74.8	35.6	20.5
1991	5,829	29.8	14.1	8.0	15,788	80.6	38.1	21.8
1992	5,922	31.2	14.4	8.2	16,110	84.9	39.1	22.4
1993	6,110	33.0	15.1	8.4	16,628	89.8	41.2	22.8
1994[1]	6,223	32.7	15.1	8.4	16,907	88.7	41.1	22.8
1995[2]	6,349	32.2	15.2	8.5	17,474	88.5	41.7	23.4

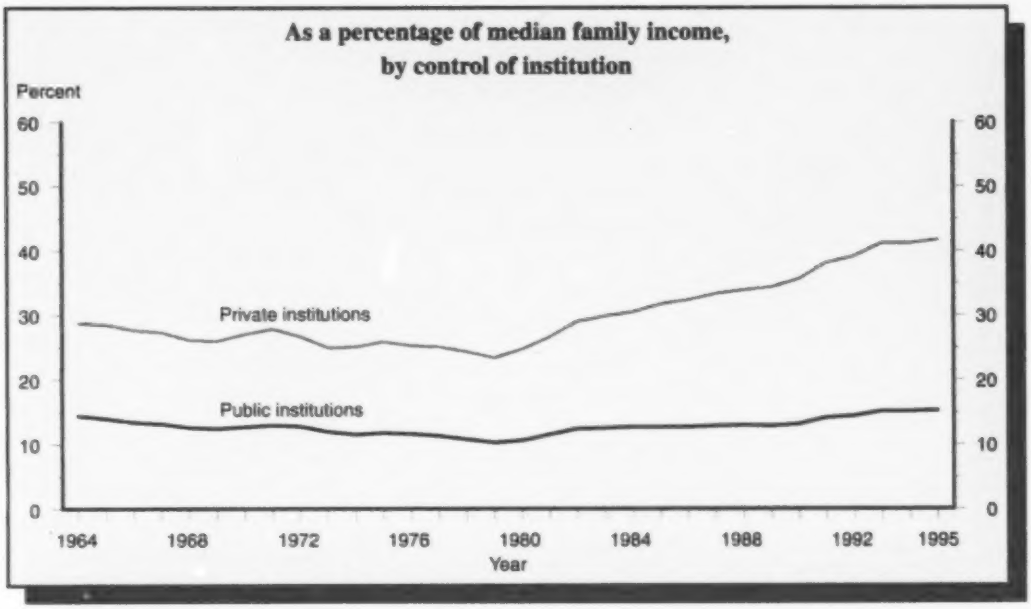
[1] Revised from previously published figures.

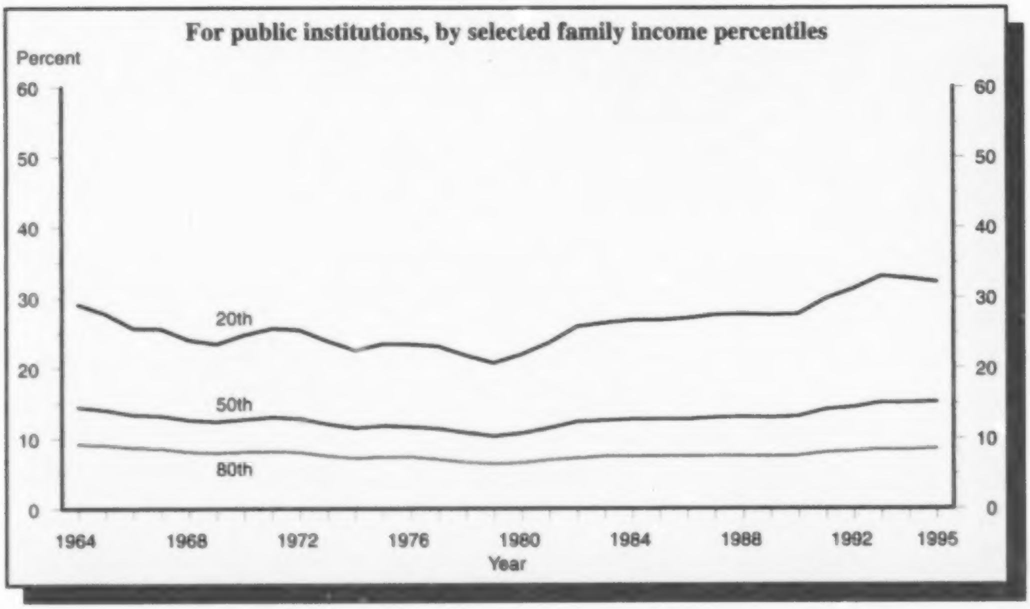
[2] Preliminary data based on fall 1994 enrollment weights.

NOTE: Tuition data are for academic years beginning 1964–95, and family income data are for calendar years 1964–95. Both calendar and school year Consumer Price Indexes (CPIs) were used to calculate constant dollar figures. "Tuition, room, and board" are for 2-year and 4-year colleges and universities. In-state tuition and fees were used for public institutions.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Digest of Education Statistics, 1996* (based on IPEDS "Fall Enrollment" and "Institutional Characteristics" surveys). U.S. Department of Commerce, Bureau of the Census, *Current Population Reports*, Series P-60, "Income, Poverty and Valuation of Non-Cash Benefits," various years (based on the March Current Population Surveys).

Average undergraduate tuition, room, and board as a percentage of income of all families: 1964–95





NOTE: Tuition data are for academic years beginning 1964–95, and family income data are for calendar years 1964–95. Both calendar and school year Consumer Price Indexes (CPIs) were used to calculate constant dollar figures. "Tuition, room, and board" are for 2-year and 4-year colleges and universities. In-state tuition and fees are used for public institutions.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Digest of Education Statistics, 1996* (based on IPEDS "Fall Enrollment" and "Institutional Characteristics" surveys). U.S. Department of Commerce, Bureau of the Census, *Current Population Reports*, Series P-60, "Income, Poverty and Valuation of Non-Cash Benefits," various years (based on the March Current Population Surveys).

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Employment and postsecondary persistence and attainment

Faced with the rising costs of higher education, students are increasingly opting to work in order to help finance their postsecondary education. Although the experience gained from working while enrolled may ease students' transition to full-time employment after completing a degree, students who work full time have less time available to commit to studies.

- Five years after their initial enrollment in 1989–90, 89 percent of beginning postsecondary students had worked at some time while enrolled. The majority of students (75 percent) worked part time (less than 34 hours per week), but 15 percent worked full time (34 or more hours per week).
- Students who first enrolled in 4-year institutions were more likely than those who started at public 2-year or private, for-profit institutions to work 1–15 hours per week, while students in public 2-year or private, for-profit institutions were more likely than those in 4-year institutions to have worked 34 or more hours per week. Students who first enrolled in private, for-profit institutions were less likely than students who started in other types of institutions to report working while enrolled.
- Regardless of the type of institution first attended, students who worked full time were less likely than students who worked part time (1–33 hours) to have attained a degree or to still be enrolled 5 years after their initial entry into postsecondary education. Overall, 31 percent of students who worked full time while enrolled attained a degree or were still enrolled compared to 79 percent of students who worked 1–15 hours per week and 65 percent of those who worked 15–33 hours per week.
- Students who work full time may need to adjust the intensity of their enrollment. Students who worked full time (34 or more hours per week) were more likely than students who worked part time to attend exclusively part time (see supplemental table 13-1). At each type of institution, those who attended exclusively part time were less likely to persist and attain 5 years after their initial entry into postsecondary education than their counterparts who attended sometimes or always full time (see supplemental table 13-2).

Percentage of 1989–90 beginning postsecondary students, by average hours worked per week while enrolled and control and type of first institution: 1994

Control and type of first institution	Did not work	Average hours worked per week while enrolled*		
		Less than 15 hours	15–33 hours	34 or more hours
Total	**10.9**	**31.2**	**43.4**	**14.5**
Public 4-year	5.4	41.1	46.7	6.8
Private, not-for-profit 4-year	5.7	52.8	36.5	4.9
Public 2-year	9.8	22.2	46.2	21.8
Private, for-profit	32.2	15.9	34.6	17.3

Percentage of 1989–90 beginning postsecondary students who attained a degree or were still enrolled by spring 1994, by control and type of first institution and average hours worked per week while enrolled

Average hours worked per week while enrolled*	Total	Control and type of first institution			
		Public 4-year	Private, not-for-profit 4-year	Public 2-year	Private, for-profit
Total	**63.0**	**73.2**	**80.5**	**51.4**	**61.4**
Did not work	51.8	55.9	72.8	43.1	55.2
Less than 15 hours	78.8	83.7	86.6	68.5	73.4
15–33 hours	65.3	72.0	78.0	56.9	70.4
34 or more hours	30.7	30.7	40.3	26.1	45.3

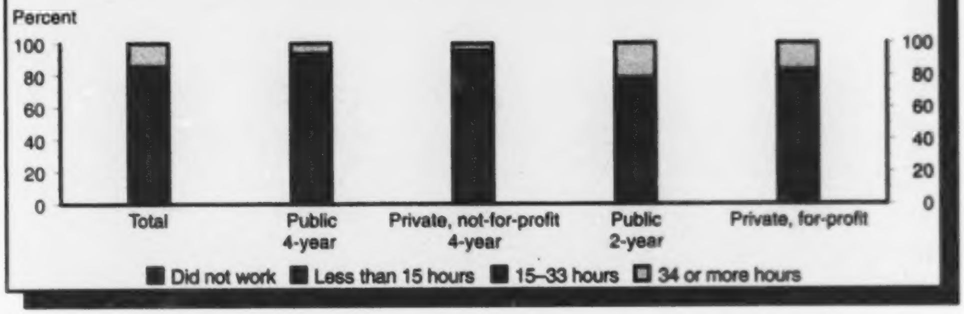
* "Average hours worked per week while enrolled" was calculated relative to students' enrollment and included only hours for those months students were both working and enrolled up to first attainment (if any) or last enrollment.

NOTE: Does not include students enrolled in either public less-than-2-year or private, not-for-profit less-than-4-year institutions.

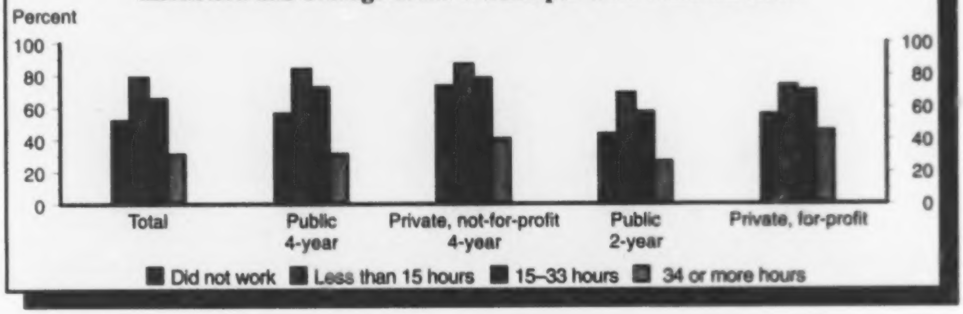
SOURCE: U.S. Department of Education, National Center of Education Statistics, 1990 Beginning Postsecondary Students Longitudinal Study, Second Follow-up (BPS:90/94).

Employment and postsecondary persistence and attainment

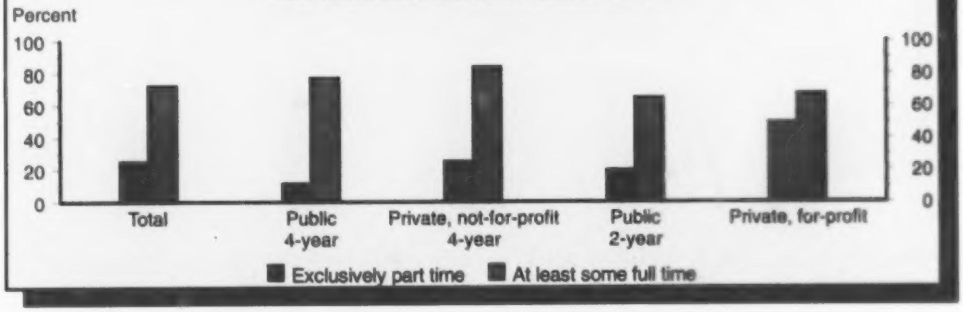
Percentage of 1989–90 beginning postsecondary students, by average hours worked per week while enrolled* and control and type of first institution: 1994



Percentage of 1989–90 beginning postsecondary students who attained a degree or were still enrolled by spring 1994, by control and type of first institution and average hours worked per week while enrolled*



Percentage of 1989–90 beginning postsecondary students who attained a degree or were still enrolled by spring 1994, by control and type of first institution and attendance status



* "Average hours worked per week while enrolled" was calculated relative to students' enrollment and included only hours for those months students were both working and enrolled up to first attainment (if any) or last enrollment.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1990 Beginning Postsecondary Students Longitudinal Study, Second Follow-up (BPS:90/94).

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Skill improvement training among currently employed workers

In the face of changing technologies, work methodologies, and markets, firms and workers benefit from education or training that upgrades or reorients workers' skills. The proportion of workers participating in skill improvement training for their current job is one indicator of the extent to which firms invest in the re-education of the employed work force. Differences in the proportions of workers who receive training provide an indication of which professions view training as a valuable investment.

- Between 1991 and 1995, the percentage of employed workers who participated in skill improvement training for their current job rose from 30 to 32 percent, increasing for both full- and part-time workers.
- In 1995, females were more likely than males to participate in skill improvement training for their current job.
- Individuals aged 35–54 years old were more likely to participate in skill improvement training for their current job than workers in other age groups in 1995.
- The percentage of workers who participate in skill improvement training is related to their education, occupation, and work status. In both 1991 and 1995, college graduates, workers in executive, professional, and technical occupations, and those employed full time were more likely than other workers to participate in training to improve their current job skills.

Percentage of employed individuals who took one or more courses during the previous 12 months to improve their current job skills, by work status and worker characteristics: 1991 and 1995

Worker characteristics	All workers		Full-time		Part-time	
	1991	1995	1991	1995	1991	1995
Total	**29.5**	**32.0**	**33.1**	**35.7**	**16.4**	**20.2**
Sex						
Male	29.3	31.0	32.3	33.0	8.9	12.5
Female	29.7	35.3	34.2	39.5	19.7	23.6
Age[1]						
20–24	20.4	22.3	26.0	25.9	9.5	14.8
25–34	29.7	33.7	32.0	35.5	19.4	22.7
35–44	36.1	38.0	38.4	39.6	23.9	27.8
45–54	29.9	38.1	32.4	39.9	15.8	24.8
55–64	28.4	26.6	32.3	28.2	17.3	19.8
65 and older	18.6	13.2	29.1	15.7	9.2	10.9
Educational attainment						
High school graduate or less	16.6	20.4	18.8	22.4	9.0	11.8
Some postsecondary education	33.5	35.5	39.3	38.6	16.7	24.3
College graduate	48.0	47.0	50.9	49.4	33.3	30.1
Occupation[2]						
Executive, professional, technical	49.9	49.9	51.2	51.4	41.2	39.9
Sales and administrative support	24.0	29.4	28.4	33.0	11.2	15.5
Service	17.8	24.6	22.4	28.9	12.0	16.7
Farming	7.0	13.8	7.3	15.2	4.0	7.1
Precision production, craft, and repair	21.4	27.4	22.4	29.5	9.9	2.5
Operators, fabricators, laborers	19.2	17.2	21.7	17.8	8.0	10.8

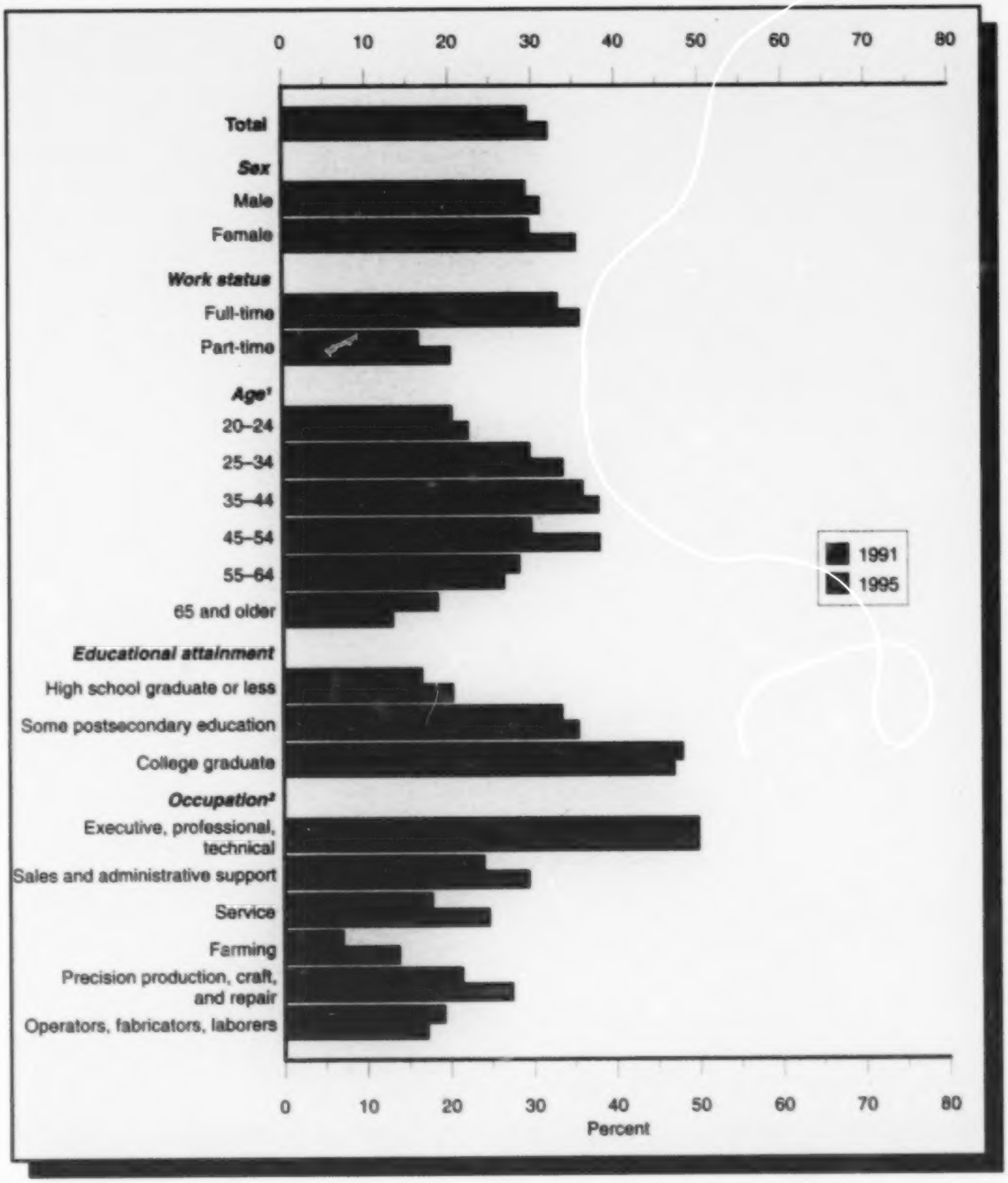
[1] Age as of December 31, 1990 for 1991 data, and as of December 31, 1994 for 1995 data.

[2] If respondent had more than one job, "occupation" was based on the job reported first.

NOTE: The survey questions were constructed differently in 1995. However, the response categories used in this analysis were similar to those used in the 1991 survey. See the supplemental note to this indicator for further discussion.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey, 1991 and 1995 (Adult Education Component).

Percentage of employed individuals who took one or more courses during the previous 12 months to improve their current job skills, by work status and worker characteristics: 1991 and 1995



[1] Age as of December 31, 1990 for 1991 data, and as of December 31, 1994 for 1995 data.

[2] If respondent had more than one job, "occupation" was based on the job reported first.

NOTE: Survey questions were constructed differently in 1995. However, the response categories used in this analysis were similar to those used in the 1991 survey. See the supplemental note to this indicator for further discussion.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey, 1991 and 1995 (Adult Education Component).

Achievement, Attainment, and Curriculum

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Achievement, Attainment, and Curriculum

Indicators of what students have learned in school are perhaps the most important measures of the outcomes of education. Although performance on examinations is one measure of what students have learned in school, examinations do not measure the wide array of skills and experiences that formal education provides. Educational attainment (e.g., finishing high school or college) is not only an indirect measure of how much subject matter students may have learned but also of how much knowledge students potentially have gained in learning civic responsibilities, social skills, work ethics, and life skills. Furthermore, information about courses taken in high school and fields of study in college is an additional indirect indicator of the content of students' knowledge.

Achievement

The National Assessment of Educational Progress (NAEP) has assessed students' knowledge in reading, writing, science, mathematics, and other subjects for more than 20 years. Average reading proficiency among 9-year-olds increased slightly between 1971 and 1994, while among 13-year-olds it remained about the same; for 17-year-olds, reading scores increased between 1971 and 1988, and then remained stable between 1988 and 1994 (*Indicator 15*). Across all grade levels, average writing proficiency either remained the same or decreased between 1984 and 1994 (*Indicator 16*). Overall, the reading and writing habits of students did not change much over the past 10 years, with a few exceptions. For example, in 1994, more 9-year-olds reported reading for fun every day than in 1984: More 8th-graders reported writing stories outside of school, and more 11th-graders reported keeping a diary or journal. Also, more 9- and 13-year-olds reported that they were required to do more reading in 1994 than in 1984 (*Indicator 17*).

Mathematics achievement is assessed through NAEP for 9-, 13-, and 17-year-olds and through the Graduate Record Examination (GRE) for college graduates intending to continue their education. NAEP shows that average mathematics proficiency among 9- and 13-year-olds was slightly higher in 1994 than in 1973, and among 17-year-olds, it was about the same in 1994 as in 1973 after declining in the late 1970s (*Indicator 18*).

According to NAEP, average science proficiency among 9-year-olds was higher in 1994 than in 1970; among 13-year-olds, it was about the same in 1994 as in 1970; and among 17-year-olds, it was lower (*Indicator 19*).

NAEP further shows that although overall scores have changed little over the last two decades, the large gaps in achievement between whites and minorities have narrowed somewhat. In particular, blacks have improved relative to whites in mathematics and science. For example, in 1973, average mathematics proficiency scores for 17-year-old blacks and Hispanics were well below those of 17-year-old whites (40 and 33 scale points, respectively). Although the gap was still large in 1994, the mathematics proficiency scores for 17-year-old white students increased only 2 scale points between 1973 and 1994, and the scores for 17-year-old blacks and Hispanics increased 16 and 14 scale points, respectively (*Indicator 18*).

In 1994, history and geography achievement were also assessed through NAEP (Indicators 18 and 19, *Condition 1996*). U.S. history scores of whites and Asians were higher than those of blacks and Hispanics across all three grade levels; however, the differences between the scores of blacks and whites and of Hispanics and whites were smaller in 8th and 12th grades than in 4th grade. In geography, at all three grade levels, males outperformed females; white and Asian students outperformed black and Hispanic students; and Hispanic students outperformed black students.

Students participating in the Advanced Placement (AP) program may acquire college credit for their knowledge of college-level subjects. Measuring the number of students who participated in AP examinations each year shows the level of importance students, schools, and colleges place on the AP program. Between 1984 and 1995, the number of students taking AP examinations increased dramatically, rising from 24 students per 1,000 11th- and 12th-grade students to 66 per 1,000. Overall, more females than males took AP examinations in 1995; however, males were more likely to take examinations in calculus and science and to score at or above level 3 in those subjects (*Indicator 25*).

International comparisons

International comparisons of student achievement are available in basic reading literacy, mathematics, and science. Generally, U.S. students compare favorably to their counterparts in other large industrialized countries in reading, and less favorably in mathematics and science; nevertheless, in 1994, eighth-graders from the United States scored higher in science than eighth-graders in France, about the same as their counterparts in Canada and Germany, and lower than their counterparts in Japan and England (Indicator 20, *Condition 1996* and *Indicator 20*).

Adult literacy

In 1992, the literacy of adults aged 16 and older was assessed in three areas: prose, document, and quantitative. Approximately 20 percent of the adults in the United States performed at a low proficiency level. In each of the three areas, scores of whites averaged 67 to 75 points higher than those of Hispanics, and 50 to 63 points higher than those of blacks. In addition, older Americans had lower literacy scores than younger Americans, and adults with more education had higher literacy scores than adults with less education (*Indicator 21* and tables 20-1 and 20-3, *Condition 1994*).

Adult literacy was assessed across seven countries in 1994. Relative to most other countries assessed, the United States had a large concentration of adults score at the highest literacy levels across the prose, document, and quantitative literacy domains. However, the United States also had a greater concentration of adults score at the lowest levels of literacy (*Indicator 21*).

Attainment

High school completion

In 1996, 87 percent of all 25- to 29-year-olds had a high school diploma or an equivalency certificate, up from 78 percent in 1971. However, the completion rate varied among racial/ethnic groups. For example, in 1996, 93 percent of whites had a high school diploma or the equivalent, compared to 86 percent of blacks and 61 percent of Hispanics. Blacks showed the most improvement: the percentage of blacks earning a high school diploma or equivalency certificate rose 27 percentage points between 1971 and 1996, compared to 11 and 13 percentage points for whites and Hispanics, respectively (*Indicator 22*). In terms of high school attainment, the United States compares favorably to other large industrialized countries. For instance, the United States has a similar or higher percentage of 25- to 64-year-olds who have completed high school than many other countries. However, with respect to young adults aged 25–34, several other nations approach or surpass U.S. secondary education completion rates (*Indicator 23*).

College attainment

In 1996, among 25- to 29-year-olds who had completed high school, 65 percent had completed at least some college, and 31 percent had earned a bachelor's degree or higher (*Indicator 22*). In the United States, a larger proportion of adults had earned college degrees compared to their counterparts in most other industrialized countries (*Indicator 23*).

Curriculum

The courses students take in high school and college are an indirect indication of the content of students' knowledge. A greater percentage of 1994 than 1982 high school graduates earned the number of units in the core courses—4 units in English, and 3 each in science, social studies, and mathematics—recommended in *A Nation at Risk* (Indicator 28, *Condition 1996*). In 1994, 51 percent of high school graduates earned at least this number of credits in the core subjects, compared to 14 percent in 1982. The class of 1994 took more mathematics and science courses in high school than did 1982 graduates, particularly geometry, algebra II, biology, and chemistry (*Indicator 24*).

Remedial courses are often needed in higher education to bridge the gap between high school and college curricula. In 1995, 78 percent of higher education institutions offered remedial courses, up slightly from 1989. One out of three college freshmen enrolled in a remedial course in either year. More students took remedial mathematics in 1995 than either remedial reading or remedial writing (*Indicator 26*).

The fields of study students choose to pursue at the postsecondary level affect both the demand for courses and faculty and the supply of new graduates in different fields. Business management is the most popular major in college: 21 percent of all bachelor's degree recipients in 1994 majored in this subject area (*Indicator 27*). At the graduate level, males were still twice as likely as females to earn degrees in business, although the gap has narrowed significantly since the early 1970s (*Indicator 28*).

Trends in the reading proficiency of 9-, 13-, and 17-year-olds

> *A student's ability to read is essential to the educational process. If students fall behind in reading proficiency, they may find it difficult to benefit from other aspects of the curriculum. In the future, poor readers may also find it difficult to participate effectively in an economy requiring increasingly sophisticated job skills.*

- Overall, reading proficiency for 9-year-olds improved between 1971 and 1980, declined slightly between 1980 and 1990, and remained stable between 1990 and 1994. Little change occurred from 1971 to 1994 at ages 13 and 17, although scores for 17-year-olds increased slightly between 1971 and 1988.
- Females continued to outscore males in reading proficiency at all age groups.
- Although black students have made no progress in reading since 1988, the average reading proficiency of black students was higher in 1994 than in 1971. Consequently, the gap between white students and their black counterparts decreased at ages 9 and 17 during this time period.
- There is evidence that reading proficiency increases more between ages 9 and 13 than between ages 13 and 17. For example, in 1994, there was an average proficiency difference of 47 scale points between 9- and 13-year-olds, and 30 scale points between 13- and 17-year-olds. This pattern holds for both genders and all racial/ethnic groups.

Average reading proficiency (scale score), by sex and age: Selected years 1971–94

	Total			Male			Female		
Year	Age 9	Age 13	Age 17	Age 9	Age 13	Age 17	Age 9	Age 13	Age 17
1971	[1]208	255	285	[1]201	250	279	214	[1]261	291
1975	210	256	286	204	250	280	216	262	[1]291
1980	[2]215	258	286	[2]210	[2]254	282	[1,2]220	263	[1]289
1984	[2]211	257	289	[2]208	[2]253	[2]284	214	262	294
1988	[2]212	258	[2]290	[2]208	252	[2]286	216	263	294
1990	209	257	[2]290	204	250	284	214	263	[2]296
1992	210	[2]260	[2]290	[2]206	254	[2]284	215	[2]265	296
1994	[2]211	258	288	[2]207	251	282	215	[2]266	295

Average reading proficiency (scale score), by race/ethnicity and age: Selected years 1971–94

	White			Black			Hispanic		
Year	Age 9	Age 13	Age 17	Age 9	Age 13	Age 17	Age 9	Age 13	Age 17
1971	[1]214	[1]261	291	[1]170	[1]222	[1]239	—	—	—
1975	217	262	293	[2]181	[1]226	[1]241	183	[3]233	252
1980	[1,2]221	[2]264	293	[2,3]189	[2]233	[1]243	190	237	261
1984	[2]218	263	[2]295	[2]186	[2]236	[2]264	187	240	[2]268
1988	218	261	295	[2]189	[2]243	[2]274	[2]194	240	[2]271
1990	217	262	[2]297	[2]182	[2]242	[2]267	189	238	[2]275
1992	[2]218	[2]266	[2]297	[2]184	[2]238	[2]261	192	239	[2]271
1994	[2]218	[2]265	296	[2]185	[2]234	[2]266	186	235	263

— Not available.

[1] Statistically significant difference from 1994.

[2] Statistically significant difference from 1971 for all racial/ethnic groups except Hispanics. Statistically significant difference from 1975 for Hispanics.

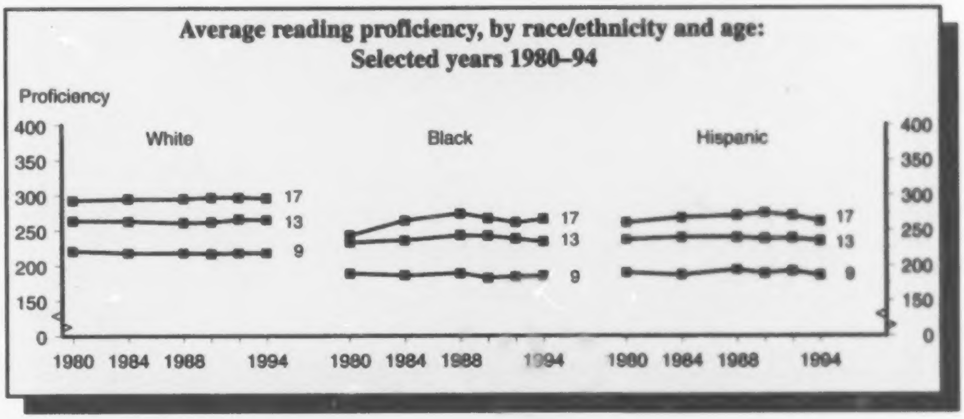
[3] Data revised from previously published figures.

NOTE: The reading proficiency scale ranges from 0 to 500. (See supplemental table 15-1 for further explanations of levels.)

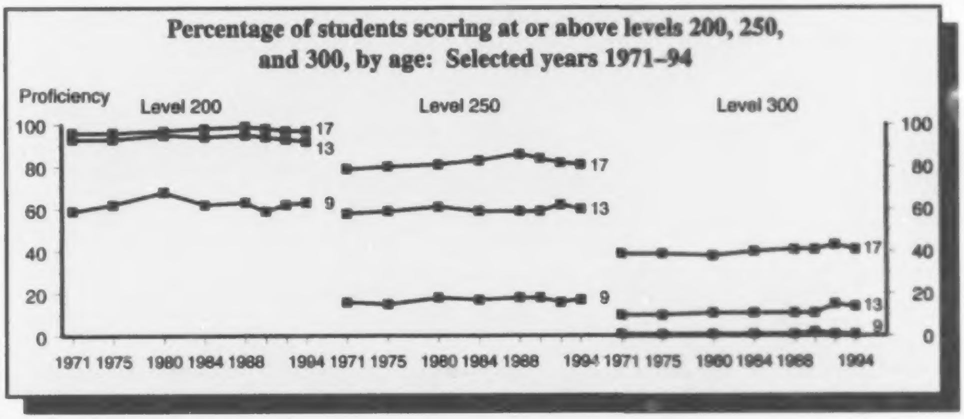
Level 150: Simple, discrete reading tasks
Level 200: Partial skills and understanding
Level 250: Interrelates ideas and makes generalizations
Level 300: Understands complicated information
Level 350: Learns from specialized reading materials

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Assessment of Educational Progress. *Trends in Academic Progress: Achievement of U.S. Students in Science, 1969 to 1994; Mathematics, 1973 to 1994; Reading, 1971 to 1994; Writing, 1984 to 1994*, 1996.

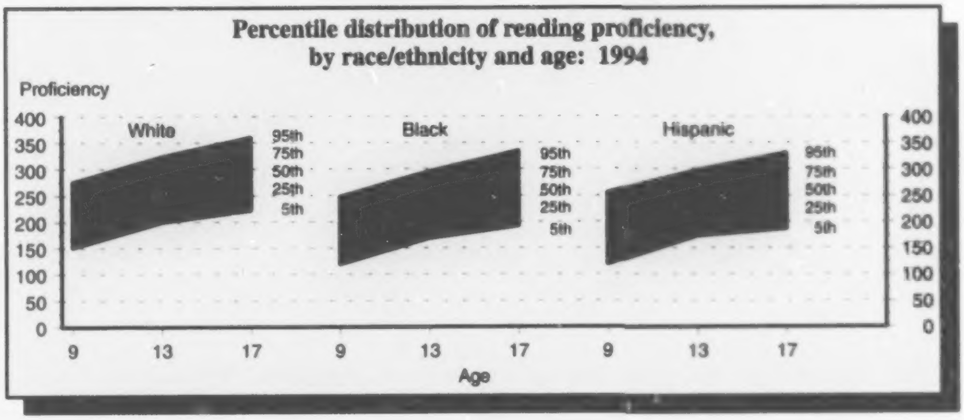
Average reading proficiency (scale score)



Average reading proficiency, by race/ethnicity and age: Selected years 1980–94



Percentage of students scoring at or above levels 200, 250, and 300, by age: Selected years 1971–94



Percentile distribution of reading proficiency, by race/ethnicity and age: 1994

NOTE: The reading proficiency scale ranges from 0 to 500. (See supplemental table 15-1 for further explanations of levels.)

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Assessment of Educational Progress, *Trends in Academic Progress: Achievement of U.S. Students in Science, 1969 to 1994; Mathematics, 1973 to 1994; Reading, 1971 to 1994; Writing, 1984 to 1994*, 1996.

Trends in writing proficiency in grades 4, 8, and 11

Effective writing skills are important in all stages of life from early education to future employment. In school, as well as in the business world, students often must convey complex ideas and information in a clear, succinct manner. Inadequate writing skills, therefore, could inhibit achievement across curriculum and in future careers, while proficient writing skills help students convey ideas, deliver instructions, analyze information, and motivate others.

- Despite some fluctuations throughout the years, the average writing proficiency for fourth-grade students was about the same in 1994 as in 1984. Eighth-grade writing scale scores declined between 1984 and 1990, increased in 1992, and then dropped back down to their original level in 1994. Eleventh-grade scores were slightly lower in 1994 than in 1984.
- Females have outscored males in writing proficiency at all levels since 1984.
- Scores for black and Hispanic students have remained relatively unchanged since 1984 at all grade levels. Although scores have dropped slightly for white 11th-graders between 1984 and 1994, white students continue to outscore black and Hispanic students at all grade levels.
- In 1994, 85 percent of 11th-graders could write focused, clear responses (level 250); 33 percent were generally able to write complete, sufficient responses (level 300); and 3 percent provided effective, coherent responses (level 350) (see supplemental table 16-2).
- In 1994, fourth-grade scores ranged from 140 at the 5th percentile to 266 at the 95th percentile. At the eighth-grade level, the median score (50th percentile) was 266, indicating that the highest scoring fourth-graders achieved the same proficiency as the average scoring eighth-graders (see supplemental table 16-3).

Average writing proficiency (scale score), by sex and grade: Selected years 1984–94

	Total			Male			Female		
Year	Grade 4	Grade 8	Grade 11	Grade 4	Grade 8	Grade 11	Grade 4	Grade 8	Grade 11
1984	204	267	[1]290	[3]201	258	[1]281	208	276	[1]299
1988	206	264	[1]291	199	254	[1]282	213	274	[1]299
1990	202	[1,2]257	287	195	[1,2]246	276	209	[1,2]268	[1]298
1992	207	[1,2]274	287	198	[1]264	279	216	[1,2]285	296
1994	205	265	[2]285	196	254	[2]276	214	278	[2]293

Average writing proficiency (scale score), by race/ethnicity and grade: Selected years 1984–94

	White			Black			Hispanic		
Year	Grade 4	Grade 8	Grade 11	Grade 4	Grade 8	Grade 11	Grade 4	Grade 8	Grade 11
1984	211	272	[1]297	182	247	270	[3]189	247	259
1988	215	269	[1]296	173	246	275	190	250	274
1990	211	[1,2]262	293	171	239	268	184	246	[2]277
1992	217	[1,2]279	294	175	[1]258	263	189	[1,2]265	274
1994	214	272	[2]291	173	245	267	189	252	271

[1] Statistically significant difference from 1994.

[2] Statistically significant difference from 1984.

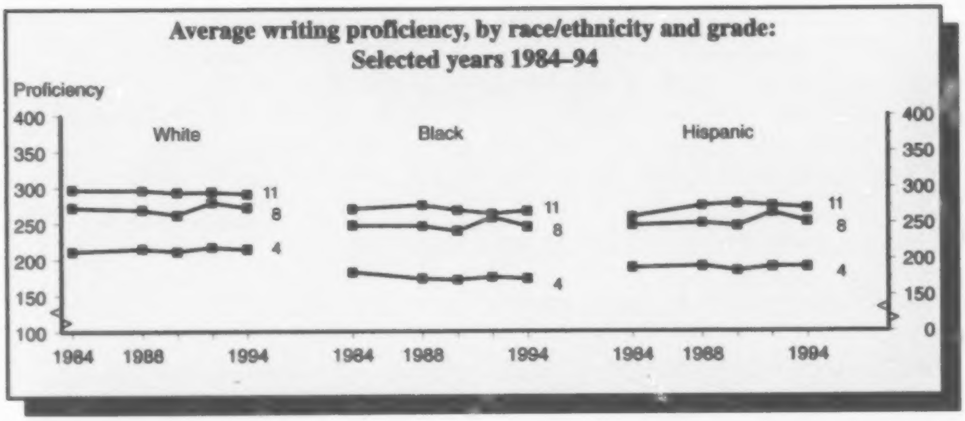
[3] Data revised from previously published figures.

NOTE: The writing proficiency scale ranges from 0 to 500. (See supplemental table 16-1 for detailed explanations of levels.)

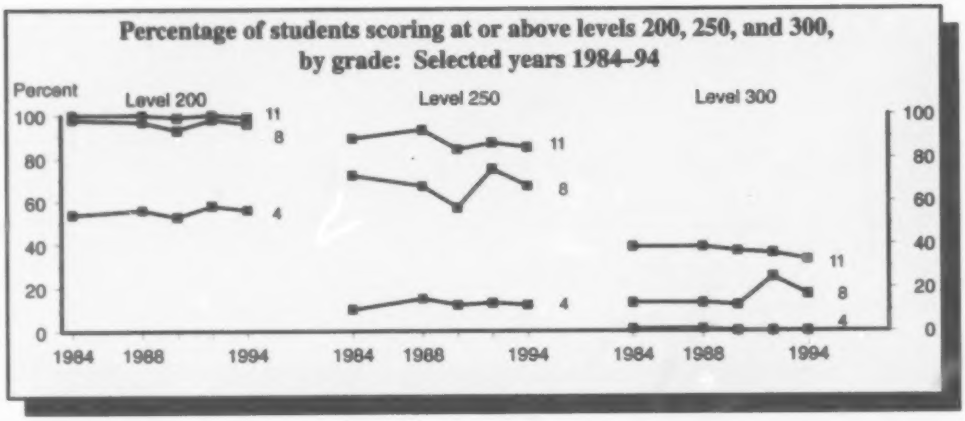
Level 150:	Disjointed, unclear writing
Level 200:	Incomplete, vague writing
Level 250:	Beginning, focused, clear writing
Level 300:	Complete, sufficient writing
Level 350:	Effective, coherent writing

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Assessment of Educational Progress, *Trends in Academic Progress: Achievement of U.S. Students in Science, 1969 to 1994; Mathematics, 1973 to 1994; Reading, 1971 to 1994; Writing, 1984 to 1994*, 1996.

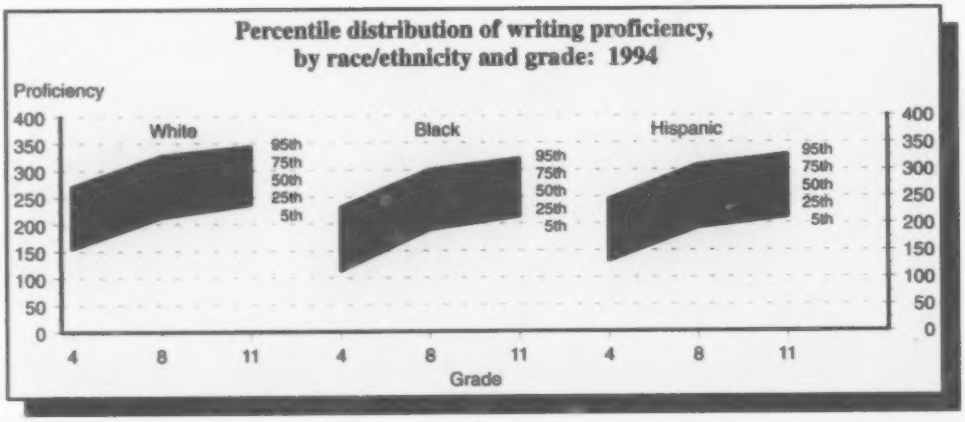
Average writing proficiency (scale score)



Average writing proficiency, by race/ethnicity and grade: Selected years 1984–94



Percentage of students scoring at or above levels 200, 250, and 300, by grade: Selected years 1984–94



Percentile distribution of writing proficiency, by race/ethnicity and grade: 1994

* The writing proficiency scale ranges from 0 to 500. (See supplemental table 16-1 for detailed explanations of levels.)

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Assessment of Educational Progress, *Trends in Academic Progress: Achievement of U.S. Students in Science, 1969 to 1994; Mathematics, 1973 to 1994; Reading, 1971 to 1994; Writing, 1984 to 1994,* 1996.

Reading and writing habits of students

Research has shown that reading ability is positively correlated with the extent to which students read recreationally. Educators are increasingly encouraging their students to read and write on their own, outside of school. Changes in the frequency with which students read and write independently, as well as in the types of materials students read and write, indicate the degree to which recreation activities related to education are supported outside of the classroom.

- Independent reading and writing habits of students have remained relatively stable across all age groups since 1984, with a few exceptions. For example, although the percentage of students writing letters, notes, or messages has remained nearly constant over the years, more 8th-graders in 1994 reported writing stories outside of school at least once a week than in 1984. Also, between 1984 and 1994, the percentage of 8th- and 11th-grade students who reported keeping a diary or journal increased.

- Between 1984 and 1994, a greater percentage of 9-year-olds than 13- and 17-year-olds reported reading for fun almost every day. In addition, 4th-grade students were more likely than 8th- or 11th-grade students to report that they wrote stories outside of class at least once a week.

- In 1994, 9-, 13-, and 17-year-old students who reported reading for fun at least once a week had higher average reading proficiency scores than students who reported never or hardly ever reading for fun (see supplemental table 17-1).

- In 1994, the types of materials students read both at home and at school varied. For all ages, students reported having most recently read a science, social studies, or mathematics book in school than at home, while they reported most recently reading magazines more at home than in school. Nine-year-olds and 13-year-olds reported having most recently read stories more at home, while 17-year-olds reported reading stories more at school (see supplemental tables 17-2 and 17-3).

Percentage of students who read for fun, by frequency and age: Selected years 1984–94

	Age 9					Age 13					Age 17				
Frequency	1984	1988	1990	1992	1994	1984	1988	1990	1992	1994	1984	1988	1990	1992	1994
Almost every day	53.3	54.1	54.0	56.2	57.6	35.1	36.0	35.2	37.0	31.9	30.8	28.1	31.1	26.7	29.7
1-2 times a week	27.7	26.1	25.2	28.0	25.1	35.1	31.3	31.9	32.4	32.4	33.5	32.1	31.4	32.9	31.4
1-2 times a month	7.1	6.9	5.7	5.8	5.3	14.2	15.3	13.4	12.8	13.9	16.7	20.8	15.5	17.8	15.3
Few times a year	3.0	3.8	3.5	3.2	3.0	7.2	7.7	8.8	8.4	9.9	10.3	10.1	11.8	11.9	11.9
Never/hardly ever	8.9	9.1	11.6	6.8	9.0	8.5	9.7	10.8	9.5	11.8	8.7	8.9	10.2	10.7	11.7

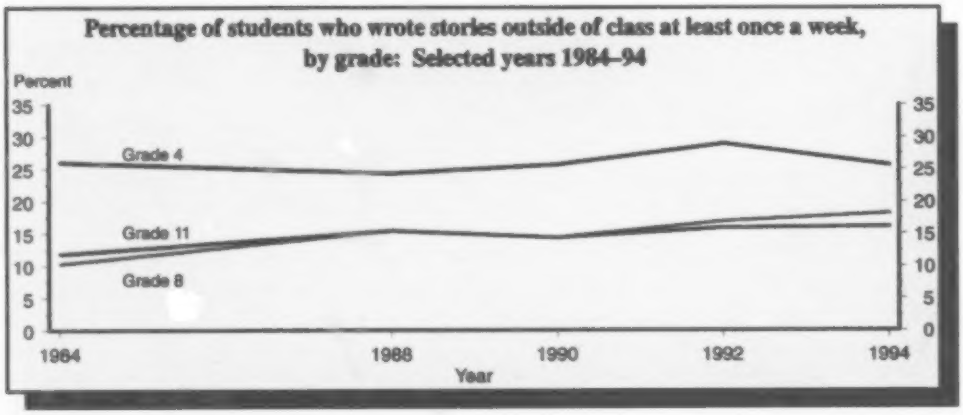
Percentage of students who wrote outside of class at least once a week, by writing habit and grade: Selected years 1984–94

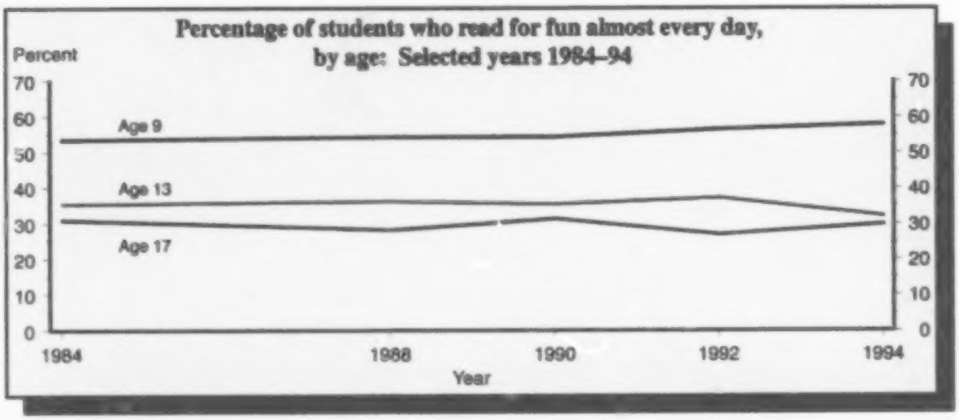
	Grade 4					Grade 8					Grade 11				
Writing habit	1984	1988	1990	1992	1994	1984	1988	1990	1992	1994	1984	1988	1990	1992	1994
Keep a diary/journal	—	—	—	—	—	25.9	28.6	30.9	29.8	32.8	19.0	22.2	21.3	22.5	27.0
Write for school paper	—	—	—	—	—	8.0	8.1	9.2	11.1	10.2	5.3	4.8	7.1	5.7	8.5
Write letters to relatives	32.5	32.3	36.5	33.6	34.9	37.3	41.9	47.2	45.8	45.1	36.2	43.9	38.5	38.0	38.1
Write notes or messages	43.7	44.7	45.9	45.4	43.9	67.9	70.8	73.5	72.5	71.5	73.7	81.5	78.2	78.9	77.2
Write stories	25.9	24.2	25.6	28.8	25.5	10.2	15.3	14.3	16.8	18.0	11.7	15.3	14.2	15.8	15.9

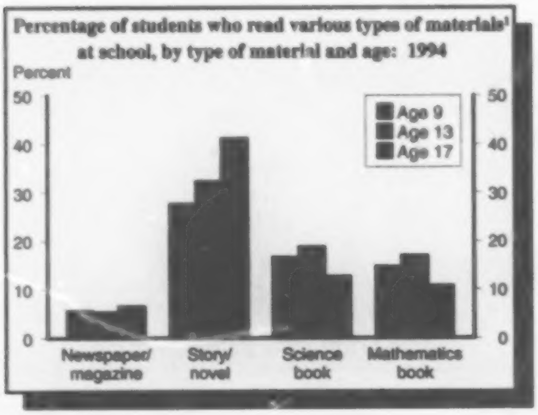
— Not available.

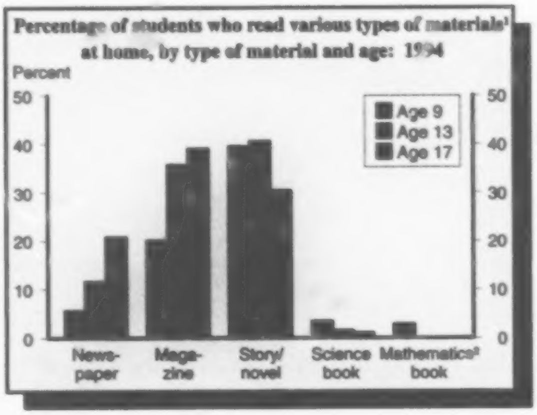
SOURCE: U.S. Department of Education, National Center for Education Statistics, National Assessment of Educational Progress, *Almanac: Reading 1984 to 1994,* and *Writing 1984 to 1994,* 1996.

Reading and writing habits of students


Percentage of students who wrote stories outside of class at least once a week, by grade: Selected years 1984–94


Percentage of students who read for fun almost every day, by age: Selected years 1984–94


Percentage of students who read various types of materials[1] at school, by type of material and age: 1994


Percentage of students who read various types of materials[1] at home, by type of material and age: 1994

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[1] Defined as the most recent type of material read.

[2] In 1994, the percentages of students aged 13 and 17 who read mathematics books at home were less than 1.0, and therefore the percentages are not discernable in the graph.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Assessment of Educational Progress, *Almanac: Reading, 1984 to 1994, and Writing, 1984 to 1994*, 1996.

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Trends in the mathematics proficiency of 9-, 13-, and 17-year-olds

Proficiency in mathematics is an important outcome of education. In addition, knowledge of mathematics is critical for success in science, computing, and a number of other related fields of study. In an increasingly technological world, the mathematics skills of the Nation's workers may be a crucial component of economic competitiveness.

- Average mathematics proficiency improved between 1978 and 1994 for all age groups, with the largest improvements occurring among 9- and 13-year-olds. Furthermore, on another mathematics assessment that reflects recent curricular emphasis and mathematics standards developed by the National Council for Teachers of Mathematics, scores increased for 4th-, 8th-, and 12th-graders between 1990 and 1996 (see supplemental table 18-2).

- Several states had significant increases in average mathematics scores between the early 1990s and 1996. Of the 38 jurisdictions in which 4th-graders participated in the assessment in both 1992 and 1996, 16 states had significant improvements in 1996, and of the 36 jurisdictions in which 8th-graders participated, 13 states showed significant improvements in 1996 (see supplemental table 18-3).

- Although whites continue to outscore blacks and Hispanics at all ages, white scores increased at a slower rate than black and Hispanic scores at ages 13 and 17, causing this gap to decrease for these age groups over the last 20 years.

- Between 1978 and 1994, the percentage of 17-year-olds scoring at or above level 250 increased from 92 to 97 percent; those scoring at or above level 300 increased from 52 to 59 percent, but those scoring at or above level 350 stayed at 7 percent (see supplemental table 18-4).

Average mathematics proficiency (scale score), by sex and age: Selected years 1973–94

	Total			Male			Female		
Year	Age 9	Age 13	Age 17	Age 9	Age 13	Age 17	Age 9	Age 13	Age 17
1973	[1]219	[1]266	304	[1]218	[1]265	309	[1]220	[1]267	301
1978	[1]219	[1]264	[1]300	[1]217	[1]264	[1,2]304	[1]220	[1]265	[1]297
1982	[1]219	[1]269	[1,2]298	[1]217	[1]269	[1,2]302	[1]221	[1]268	[1,2]296
1986	[1]222	[1]269	[1]302	[1,2]222	[1,2]270	305	[1]222	[1]268	[1]299
1990	[2]230	[1,2]270	305	[2]229	[1,2]271	306	[2]230	270	303
1992	[2]230	[2]273	307	[2]231	[2]274	309	[2]228	[2]272	[3]305
1994	[2]231	[2]274	306	[2]232	[2]276	309	[2]230	[2]273	304

Average mathematics proficiency (scale score), by race/ethnicity and age: Selected years 1973–94

	White			Black			Hispanic		
Year	Age 9	Age 13	Age 17	Age 9	Age 13	Age 17	Age 9	Age 13	Age 17
1973	[1]225	[1]274	310	[1]190	[1]228	[1]270	[1]202	[1]239	[1]277
1978	[1]224	[1]272	[1,2]306	[1]192	[1]230	[1]268	203	[1]238	[1]276
1982	[1]224	[1]274	[1,2]304	[1]195	[1,2]240	[1]272	204	[2]252	[1]277
1986	[1]227	[1]274	[1]308	[1,2]202	[2]249	[2]279	205	[2]254	283
1990	[2]235	[1]276	310	[2]208	[2]249	[2]288	[2]214	[2]255	284
1992	[2]235	[2]279	312	[2]208	[2]250	[2]286	[2]212	[2]259	[2]292
1994	[2]237	[2]281	312	[2]212	[2]252	[2]286	[2]210	[2]256	[2]291

[1] Statistically significant difference from 1994.

[2] Statistically significant difference from 1973.

[3] Revised from previously published figure.

NOTE: The mathematics proficiency scale ranges from 0 to 500. (See supplemental table 18-1 for detailed explanations of levels.)

Level 150: Simple arithmetic facts

Level 200: Beginning skills and understandings

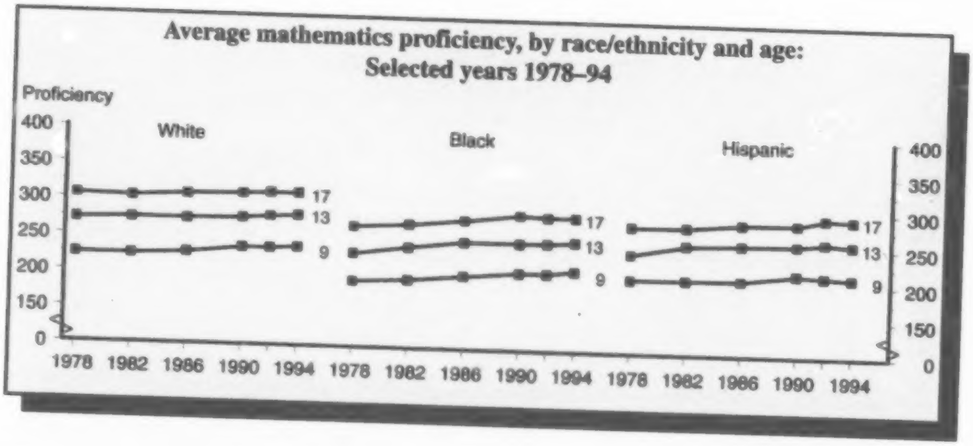
Level 250: Numerical operations and beginning problem solving

Level 300: Moderately complex procedures and reasoning

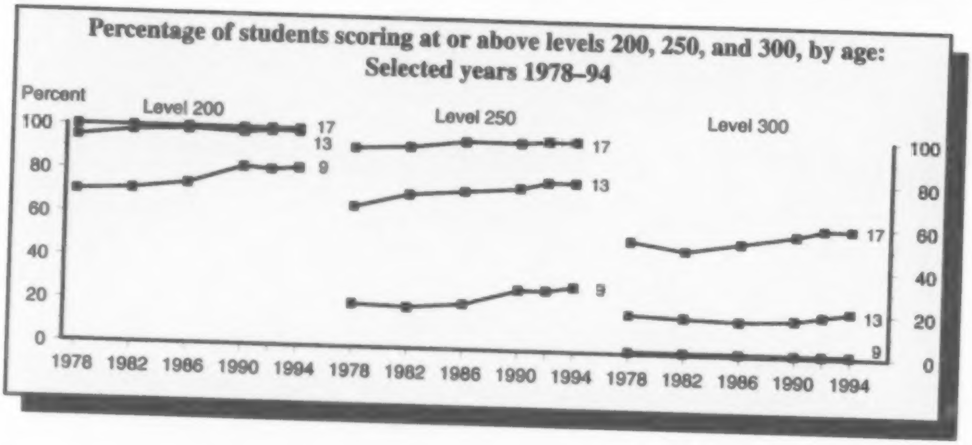
Level 350: Multi-step problem solving and algebra

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Assessment of Educational Progress, *Trends in Academic Progress: Achievement of U.S. Students in Science, 1969 to 1994; Mathematics, 1973 to 1994; Reading, 1971 to 1994; Writing, 1984 to 1994*, 1996.

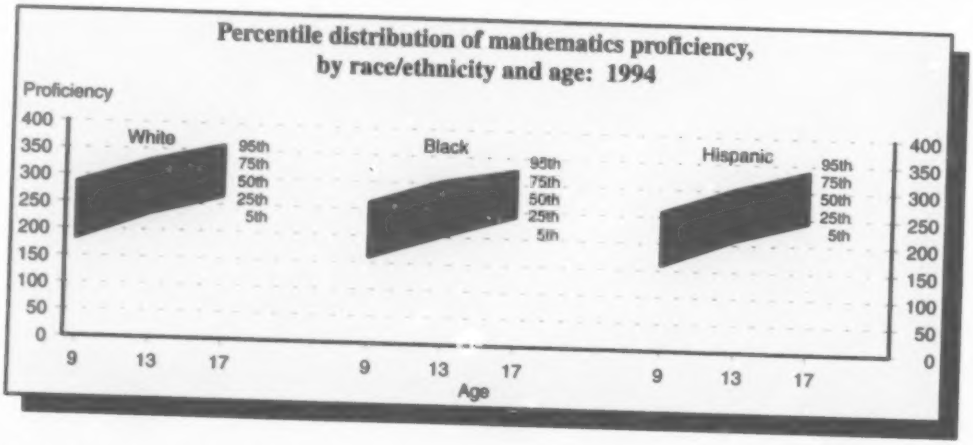
Average mathematics proficiency (scale score)



Average mathematics proficiency, by race/ethnicity and age: Selected years 1978–94



Percentage of students scoring at or above levels 200, 250, and 300, by age: Selected years 1978–94



Percentile distribution of mathematics proficiency, by race/ethnicity and age: 1994

NOTE: The mathematics proficiency scale ranges from 0 to 500. (See supplemental table 18-1 for detailed explanations of levels.)

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Assessment of Educational Progress, *Trends in Academic Progress: Achievement of U.S. Students in Science, 1969 to 1994; Mathematics, 1973 to 1994; Reading, 1971 to 1994; Writing, 1984 to 1994*, 1996.

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Trends in the science proficiency of 9-, 13-, and 17-year-olds

Competence in science is an important outcome of education. The ability to apply scientific information, interpret data, and make inferences about scientific findings is required in a world that relies heavily on technological and scientific advances.

- In 1994, average science achievement was higher at all three age levels than in 1982. Following a period of decline in the 1970s, scores were higher at age 9 in 1994 than 1970, about the same at age 13, and lower at age 17.
- In 1994, the average science proficiency of blacks and Hispanics remained well below that of whites. However, between 1977 and 1994, the proficiency gap decreased between whites and blacks at age 9 and between whites and Hispanics at age 13.
- A higher percentage of 9-, 13-, and 17-year-olds demonstrated general science skills by reaching level 250 in 1994 than in 1982. In addition, more 17-year-olds reached levels 300 and 350 in 1994, exhibiting detailed knowledge and analytical understanding of scientific principles and the ability to integrate specialized scientific information (see supplemental table 19-2).
- There is a great deal of variation in science proficiency scores within an age group. For example, in 1994, the proficiency of white 9-year-olds varied by 123 scale points from the 5th percentile to the 95th percentile. By comparison, the difference in the proficiency of median white 9-year-olds and white 17-year-olds was 66 scale points (see supplemental table 19-3).

Average science proficiency (scale score), by sex and age: Selected years 1970–94

	Total			Male			Female		
Year	Age 9	Age 13	Age 17	Age 9	Age 13	Age 17	Age 9	Age 13	Age 17
1970	[1]225	255	[1]305	[1]228	257	[1]314	[1]223	253	[1]297
1973	[1,2]220	[1,2]250	[1]296	[1,2]223	[1,2]252	[2]304	[1]218	[1,2]247	[2]288
1977	[1,2]220	[1,2]247	[2]290	[1,2]222	[1,2]251	[2]297	[1,2]218	[1,2]244	[1,2]282
1982	[1]221	[1,2]250	[1,2]283	[1,2]221	256	[1,2]292	[1]221	[1,2]245	[1,2]275
1986	[1]224	[1]251	[1,2]288	[1]227	256	[2]295	[1]221	[1,2]247	[1,2]282
1990	229	255	[2]290	230	[3]259	[2]296	227	252	[2]285
1992	[2]231	258	[2]294	[2]235	260	[2]299	227	256	[2]289
1994	[2]231	257	[2]294	[2]232	259	[2]300	[2]230	254	[2]289

Average science proficiency (scale score), by race/ethnicity and age: Selected years 1970–94

	White			Black			Hispanic		
Year	Age 9	Age 13	Age 17	Age 9	Age 13	Age 17	Age 9	Age 13	Age 17
1970	236	[1]263	[1]312	[1]179	215	258	—	—	—
1973	[1,2]231	[1,2]259	[2]304	[1]177	[1,2]205	[2]250	—	—	—
1977	[1,2]230	[1,2]256	[1,2]298	[1]175	[1]208	[1,2]240	[1]192	[1]213	262
1982	[1,2]229	[1,2]257	[1,2]293	[1]187	217	[1,2]235	[1]189	[2]226	[2]249
1986	[1,2]232	[1]259	[1,2]298	[2]196	222	253	199	[2]226	259
1990	238	264	[2]301	[2]196	[2]226	253	[2]206	[2]232	262
1992	239	[2]267	[2]304	[2]200	224	256	[2]205	[2]238	270
1994	240	[2]267	[2]306	[2]201	224	257	[2]201	[2]232	261

— Not available.

[1] Statistically significant difference from 1994.

[2] Statistically significant difference from 1970 for all racial/ethnic groups except Hispanics. Statistically significant difference from 1977 for Hispanics.

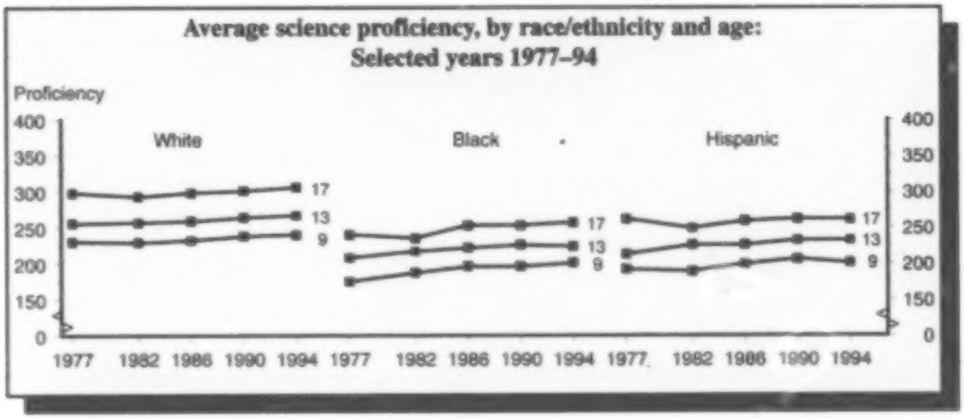
[3] Revised from previously published figures.

NOTE: The science proficiency scale ranges from 0 to 500. (See supplemental table 19-1 for detailed explanations of levels.)

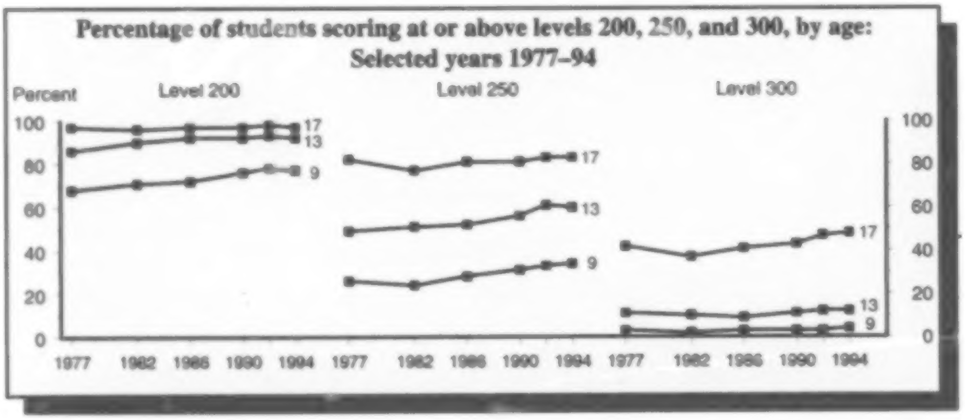
Level 150:	Knows everyday science facts
Level 200:	Understands simple scientific principles
Level 250:	Applies general scientific information
Level 300:	Analyzes scientific procedures and data
Level 350:	Integrates specialized scientific information

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Assessment of Educational Progress, *Trends in Academic Progress: Achievement of U.S. Students in Science, 1969 to 1994; Mathematics, 1973 to 1994; Reading, 1971 to 1994; and Writing, 1984 to 1994*, 1996.

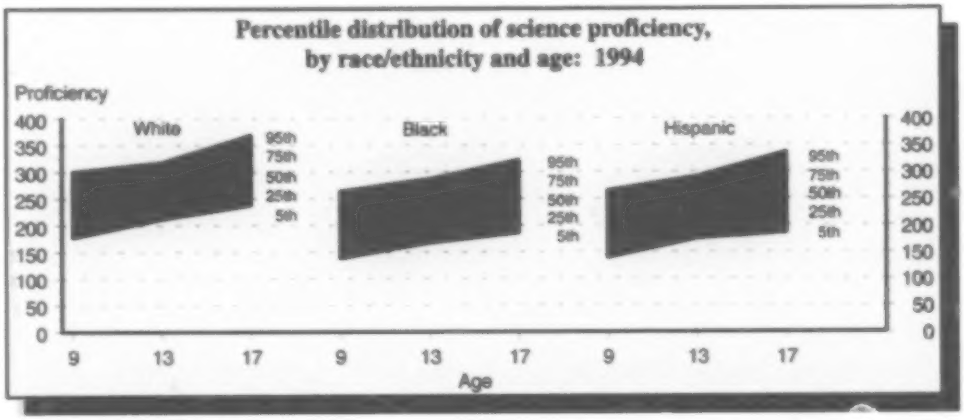
Average science proficiency (scale score)



Average science proficiency, by race/ethnicity and age: Selected years 1977–94



Percentage of students scoring at or above levels 200, 250, and 300, by age: Selected years 1977–94



Percentile distribution of science proficiency, by race/ethnicity and age: 1994

NOTE: The science proficiency scale ranges from 0 to 500. (See supplemental table 19-1 for detailed explanations of levels.)

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Assessment of Educational Progress, *Trends in Academic Progress: Achievement of U.S. Students in Science, 1969 to 1994; Mathematics, 1973 to 1994; Reading, 1971 to 1994; Writing, 1984 to 1994*, 1996.

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International comparisons of mathematics and science performance of eighth-grade students

The technical and scientific skills of a nation's workers are a crucial component of its economic competitiveness. The recently completed Third International Mathematics and Science Study (TIMSS) assessed the mathematics and science performance of students around the world. By comparing the mathematics and science proficiency of eighth-graders in six wealthy industrialized countries, one can monitor our progress toward meeting the National Education Goal of being first in the world in mathematics and science achievement.

- In 1995, eighth-grade students from the United States scored lower, on average, in mathematics than students in Japan, France, and Canada, and scored about the same as students in Germany and England.
- In science, eighth-grade students from the United States scored higher, on average, than students in France, about the same as students in Canada and Germany, and lower than students in Japan and England.
- Eighth-grade boys and girls in the United States had similar average scores in both mathematics and science. Boys scored higher than girls in mathematics in Japan, and in science in Japan, England, Canada, Germany, and France.
- Mathematics and science proficiency varied widely among students within each country. Moreover, this degree of variation also differed across countries. For example, the difference between the 5th and 95th percentiles for mathematics scores in the United States was less than in Japan, but more than the difference in France. In science, the variation of scores in the United States was greater than in Canada, Japan, and France.

Average mathematics proficiency scores of eighth-grade students, by country and sex: 1995

	Average score			Percentile distribution				
G-7 country[1]	Total	Boys	Girls	5th	25th	50th	75th	95th
Japan	[5]605	[5]609	[5]600	[5]435	[5]536	[5]608	[5]676	[5]771
France	[5]538	[5]542	[5]536	[5]415	[5]484	[5]534	[5]591	[5]666
Canada	[5]527	[5]526	[5]530	[5]389	[5]468	[5]527	[5]587	[5]670
Germany[2,3,4]	509	512	509	368	448	506	572	661
England[3,4]	506	508	504	361	443	501	570	665
United States[4]	500	502	497	356	435	494	563	653

Average science proficiency scores of eighth-grade students, by country and sex: 1995

	Average score			Percentile distribution				
G-7 country[1]	Total	Boys	Girls	5th	25th	50th	75th	95th
Japan	[5]571	[5]579	[5]562	[5]421	[5]514	[5]573	[5]632	715
England[3,4]	[5]552	[5]562	542	[5]380	484	549	625	727
United States[4]	534	539	530	359	465	537	608	705
Canada	531	537	525	[5]380	472	529	594	685
Germany[2,3,4]	531	542	524	362	463	535	602	691
France	[6]498	[6]506	[6]490	374	446	[6]498	[6]553	[6]623

[1] Italy did not participate in the survey.

[2] Germany did not meet international guidelines. See the supplemental note to this indicator for further discussion.

[3] More than 10 percent of the population was excluded from testing. See the supplemental note to this indicator for further explanation.

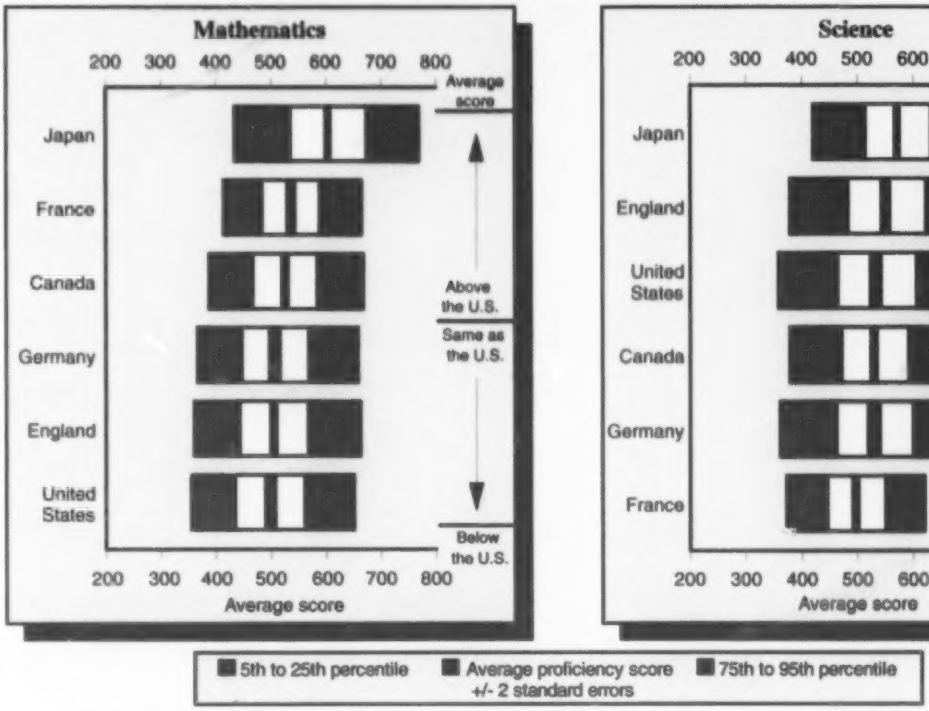
[4] A participation rate of 75 percent of the schools and students combined was achieved only after replacements for refusals were substituted. See the supplemental note to this indicator for further explanation.

[5] Significantly higher than the United States at the .05 level.

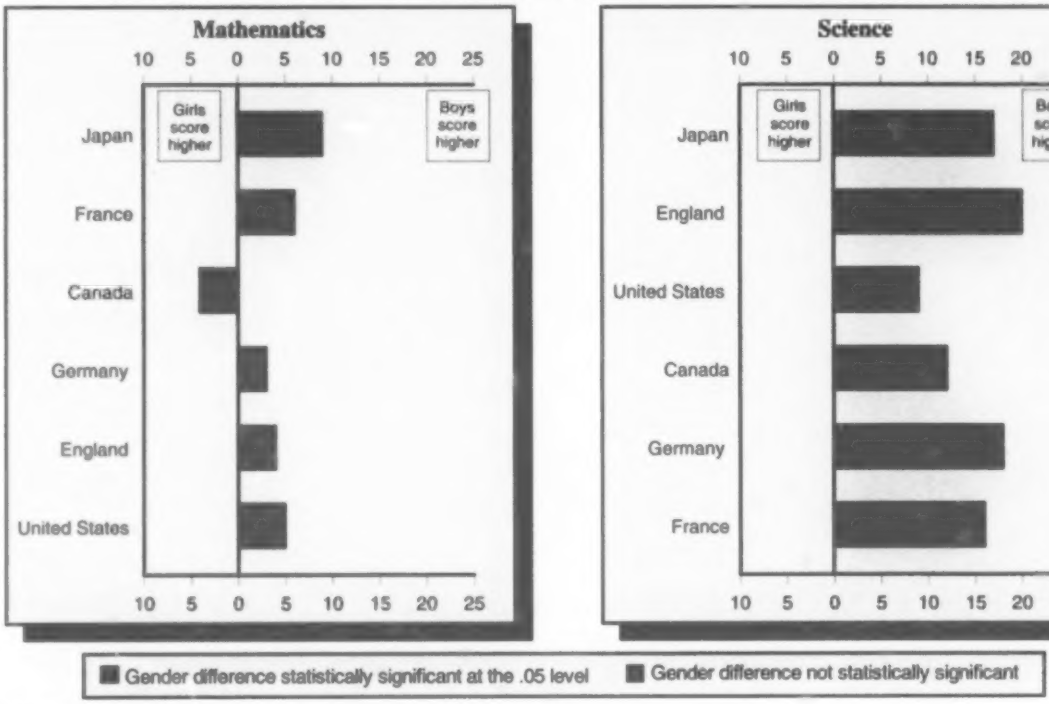
[6] Significantly lower than the United States at the .05 level.

SOURCE: International Association for the Evaluation of Educational Achievement, TIMSS International Study Center, *Mathematics Achievement in the Middle School Years, Science Achievement in the Middle School Years. IEA's Third International Mathematics and Science Study.* 1996.

Distribution of proficiency scores, by subject and country: 1995



Gender differences and proficiency, by subject and country: 1995



SOURCE: International Association for the Evaluation of Educational Achievement, TIMSS International Study Center, *Mathematics Achievement in the Middle School Years, Science Achievement in the Middle School Years, IEA's Third International Mathematics and Science Study*, 1996.

International comparisons of adult literacy

In recent years, literacy has been viewed as one of the fundamental tools necessary for successful economic performance in industrialized societies. Literacy is no longer defined merely as a basic threshold of reading ability, but rather as the ability to understand and use printed information in daily activities, at home, at work, and in the community. As society becomes more complex and low skill jobs continue to disappear, concern about adults' ability to use written information to function in society continues to increase. Within countries, literacy levels are affected by both the quality and quantity of the population's formal education, as well as participation in informal learning activities.

- Compared to most of the other countries assessed in 1994, the United States had a greater concentration of adults who scored at the lowest literacy levels across the prose, document, and quantitative literacy domains. However, the United States had one of the higher concentrations of adults who scored at or above level 4 on the prose scale.

- In 1994, the proportion of adults who scored at each literacy level was similar across the three scales in Canada and the United States. In Germany, the Netherlands, and Switzerland, on the other hand, the proportion of adults who scored at the highest literacy level (level 4/5) was greater on the quantitative scale than on the prose scale.

- The distribution of literacy proficiency across different age groups was fairly uniform in the United States, with the exception of the oldest age group, while in several other countries, young adults had higher literacy levels than older adults. For example, the percentage of U.S. adults aged 26–35 who scored at or above level 4 on the prose scale was similar to the percentage of U.S. adults aged 46–55 scoring at that level (22 and 24 percent, respectively). Within Germany, the younger group was almost twice as likely to score at or above level 4 on the prose scale as the older group (20 and 11 percent, respectively). Differences in literacy proficiency by age in Switzerland, Sweden, and the Netherlands were similar to those in Germany (see supplemental table 21-1).

- Within particular occupations, the proportion of workers scoring at each literacy level varied across the assessed countries. For example, the proportion of skilled craft workers scoring at level 3 or above was lower in the United States than in other countries, particularly Germany (see supplemental table 21-2).

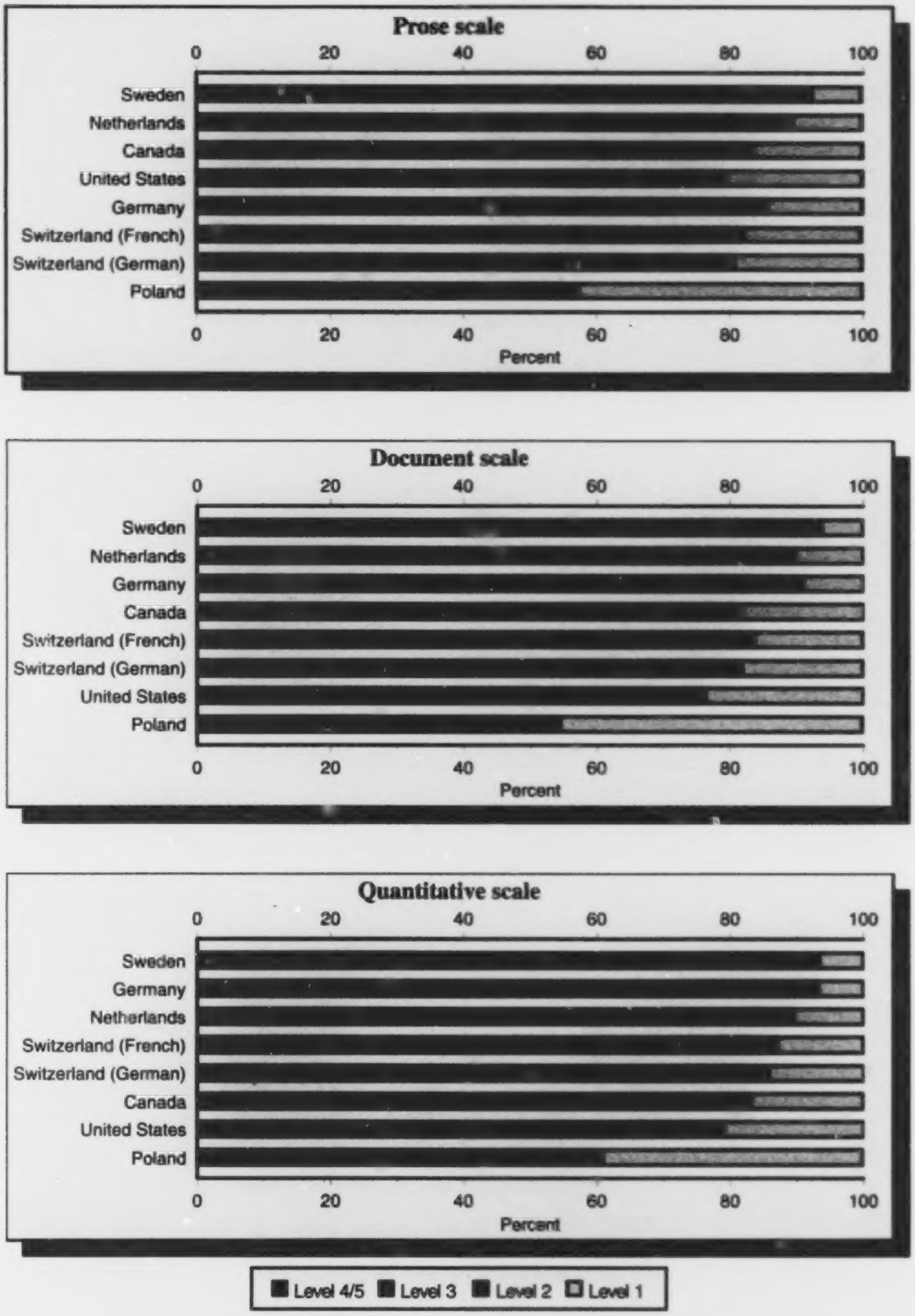
Percentage distribution of the population in selected countries scoring at each of the five literacy levels, by literacy scale: 1994

	Prose scale				Document scale				Quantitative scale			
Country	Level 1	Level 2	Level 3	Level 4/5	Level 1	Level 2	Level 3	Level 4/5	Level 1	Level 2	Level 3	Level 4/5
Canada	16.6	25.6	35.1	22.7	18.2	24.7	32.1	25.1	16.9	26.1	34.8	22.2
Germany	14.4	34.2	38.0	13.4	9.0	32.7	39.5	18.9	6.7	26.6	43.2	23.5
Netherlands	10.5	30.1	44.1	15.3	10.1	25.7	44.2	20.0	10.3	25.5	44.3	19.9
Poland	42.6	34.5	19.8	3.1	45.4	30.7	18.0	5.8	39.1	30.1	23.9	6.8
Sweden	7.5	20.3	39.7	32.4	6.2	18.9	39.4	35.5	6.6	18.6	39.0	35.8
Switzerland (French)	17.6	33.7	38.6	10.0	16.2	28.8	38.9	16.0	12.9	24.5	42.2	20.4
Switzerland (German)	19.3	35.7	36.1	8.9	18.1	29.1	36.6	16.1	14.2	26.2	40.7	19.0
United States	20.7	25.9	32.4	21.1	23.7	25.9	31.4	19.0	21.0	25.3	31.3	22.5

NOTE: The individuals who performed at level 1 demonstrated the lowest literacy proficiency, while those at level 5 displayed the highest literacy proficiency. See the supplemental note to this indicator for a description of the literacy scales and levels.

SOURCE: Organization for Economic Co-operation and Development and Statistics Canada, *Literacy, Economy and Society, Results of the International Adult Literacy Survey*, 1995.

Percentage distribution of the population in selected countries scoring at each of the five literacy levels, by literacy scale: 1994



NOTE: See the supplemental note to this indicator for a description of the literacy scales and levels.

SOURCE: Organization for Economic Co-operation and Development and Statistics Canada, *Literacy, Economy and Society, Results of the International Adult Literacy Survey*, 1995.

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Educational attainment

Changes in educational attainment over time indicate changes in the demand for skills and knowledge in the work force. Also, changes in educational attainment can reflect the increasing emphasis society places on graduating from high school and college: Completing high school and college is an important educational accomplishment that yields many benefits to those who achieve it. Better job opportunities and higher earnings are examples of those benefits.

- The educational attainment of 25- to 29-year-olds increased between 1971 and 1996. The percentage of students completing high school rose from 78 to 87 percent; the percentage of high school graduates completing at least some college rose from 44 to 65 percent; and the percentage of high school graduates completing 4 or more years of college rose from 22 to 31 percent.

- While the educational attainment of blacks aged 25 to 29 in 1996 is below that of their white counterparts, it did increase between 1971 and 1996. However, the gap between black and white attainment decreased only for high school graduates. The percentage of blacks completing high school rose from 59 to 86 percent during this period.

- In 1996, fewer Hispanic 25- to 29-year-olds had completed high school than their black counterparts. The percentages of Hispanic and black high school graduates with some college or a bachelor's degree or more were similar.

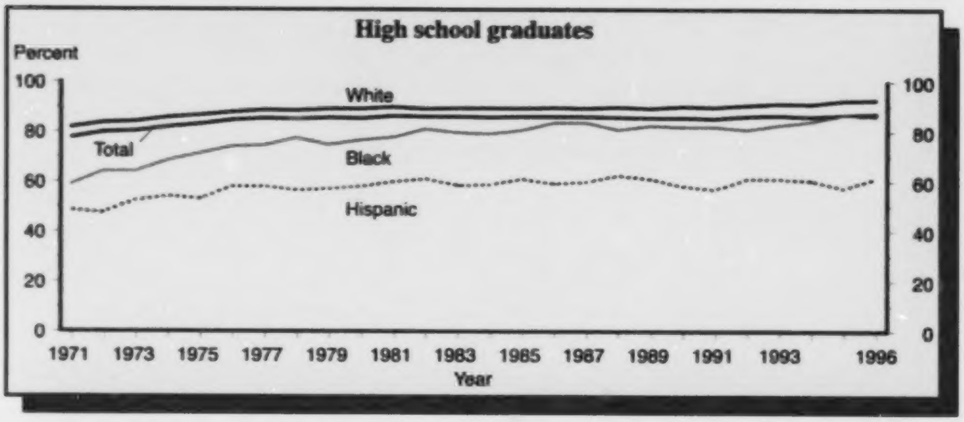
Percentage of 25- to 29-year-olds who have completed high school, and percentage of high school graduates who have completed 1 or more and 4 or more years of college, by race/ethnicity: Selected years March 1971–96

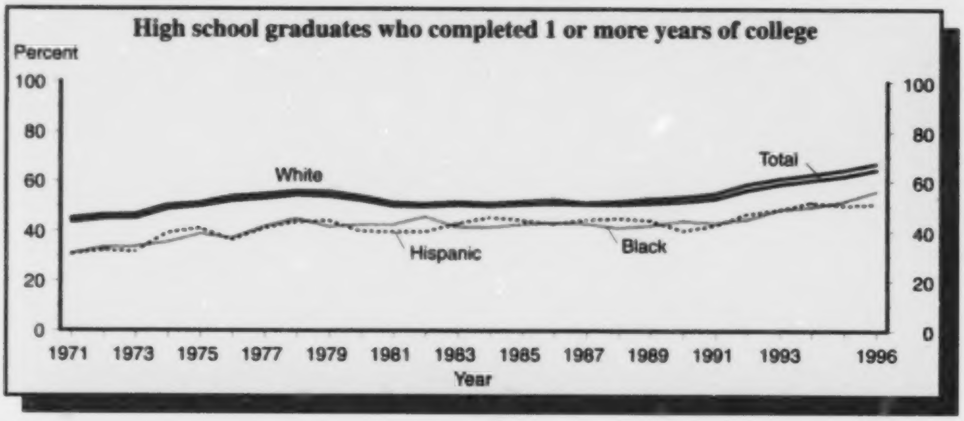
					High school graduates completing:							
	High school graduates				1 or more years of college				4 or more years of college			
March	Total	White	Black	Hispanic	Total	White	Black	Hispanic	Total	White	Black	Hispanic
1971	77.7	81.7	58.8	48.3	43.6	44.9	30.9	30.6	22.0	23.1	11.5	10.5
1973	80.2	84.0	64.1	52.3	45.3	46.6	33.5	31.6	23.6	24.8	12.7	10.8
1975	83.1	86.6	71.1	53.1	50.1	51.2	38.7	41.1	26.3	27.5	14.7	16.6
1977	85.4	88.6	74.5	58.0	53.2	54.8	41.7	41.1	28.1	29.8	16.9	11.5
1979	85.6	89.2	74.7	57.1	54.1	55.7	41.7	44.0	27.0	28.6	16.6	12.9
1981	86.3	89.8	77.6	59.8	50.1	51.2	42.5	39.6	24.7	26.3	14.9	12.5
1983	86.0	89.3	79.5	58.4	50.6	51.6	41.6	42.9	26.2	27.4	16.2	17.8
1985	86.2	89.5	80.5	61.0	50.8	51.8	42.7	44.2	25.7	27.3	14.4	18.2
1987	86.0	89.4	83.5	59.8	50.7	51.4	43.0	44.6	25.6	27.6	13.8	14.5
1989	85.5	89.3	82.3	61.0	51.3	52.8	42.1	44.3	27.3	29.5	15.4	16.5
1991	85.4	89.8	81.8	56.7	53.1	54.9	43.2	42.2	27.2	29.7	13.4	16.3
	Diploma or equivalency certificate				**Some college**				**Bachelor's degree or higher**			
1992	86.3	90.6	80.9	60.9	56.7	58.8	44.7	46.8	27.3	30.0	13.7	15.6
1993	86.7	91.2	82.7	60.9	58.9	61.0	48.4	48.8	27.3	29.8	16.1	13.6
1994	86.1	91.1	84.1	60.3	60.5	62.7	49.6	51.5	27.0	29.7	16.2	13.3
1995	86.9	92.5	86.8	57.2	62.2	64.6	52.0	50.3	28.4	31.2	17.8	15.5
1996	87.3	92.6	86.0	61.1	64.7	67.0	55.9	50.9	31.1	34.1	17.0	16.4

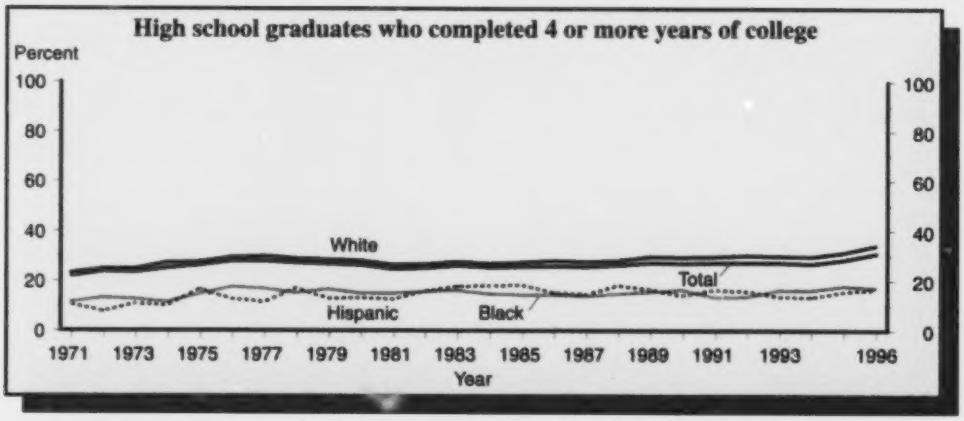
NOTE: In 1992, the Current Population Survey (CPS) changed the questions used to obtain the educational attainment of respondents. The category "diploma or equivalency certificate" includes those who have a high school diploma or an equivalency certificate; "some college" includes those with an associate's degree or vocational certificate; and "bachelor's degree or higher" includes those with an advanced degree. See the supplemental note to this indicator for further discussion.

SOURCE: U.S. Department of Commerce, Bureau of the Census, March Current Population Surveys.

Percentage of 25- to 29-year-olds who completed high school, and percentage of high school graduates who completed 1 or more and 4 or more years of college, by race/ethnicity: March 1971–96







NOTE: In 1992, the Current Population Survey (CPS) changed the questions used to obtain the educational attainment of respondents. The category "diploma and equivalency certificate" includes those who have a high school diploma or an equivalency certificate; "some college" includes those with an associate's degree or vocational certificate; and "bachelor's degree or higher" includes those with an advanced degree. See the supplemental note to this indicator for further discussion.

SOURCE: U.S. Department of Commerce, Bureau of the Census, March Current Population Surveys.

International comparisons of educational attainment, by age

The percentage of the population completing secondary and higher education in the United States and other highly industrialized countries indicates the skill level of the U.S. work force as compared to the work force of our nation's economic competitors. In addition, contrasting the educational attainment of the general population to the attainment of younger aged cohorts provides a means of comparing past and recent progress in rates of completion of high school or college.

- The educational attainment of the U.S. population in 1994 was high compared to that of other large industrialized countries. A similar or higher percentage of 25- to 64-year-olds in the United States had completed secondary and higher education compared to their counterparts in Japan, Germany, the United Kingdom, France, Italy, or Canada.

- In 1994, 25- to 34-year-olds in Japan, Germany, the United Kingdom, France, and Canada had completed secondary education at rates similar to their counterparts in the United States.

- Females aged 25–34 in the United States were much more likely to complete higher education than females and males in the same age group in other large industrialized countries (with the exception of males aged 25–34 in Japan).

- Males aged 25–34 in Japan were much more likely to complete higher education than males of the same age group in the other large industrialized countries. Males aged 25–34 in the United States ranked second.

Percentage of the population in large industrialized countries who had completed secondary and higher education, by age, sex, and country: 1994

	25–64 years old		25–34 years old					
	Total		Total		Male		Female	
Country	Secondary education[1]	Higher education	Secondary education[1]	Higher education	Secondary education[1]	Higher education	Secondary education[1]	Higher education
Canada	74.1	16.9	82.3	18.4	80.6	18.0	84.0	18.9
France[2]	67.1	9.2	84.4	11.6	86.4	11.9	82.3	11.3
Germany	84.0	12.6	89.6	11.9	91.6	12.7	87.5	11.0
Italy	33.2	7.5	47.3	7.9	45.6	7.7	49.0	8.1
Japan[3]	69.7	13.3	90.6	22.9	89.3	34.2	91.8	11.5
United Kingdom	74.5	11.7	86.1	13.7	87.3	15.7	84.9	11.7
United States	85.1	24.4	86.4	23.4	85.2	23.4	87.5	23.5

[1] Includes individuals who have at least completed secondary education.

[2] France's definitions of ISCED levels were changed so that they are more similar to EUROSTAT definitions and are easier to compare to the definitions of other countries. As a result, data for 1994 are not directly comparable with data for other years.

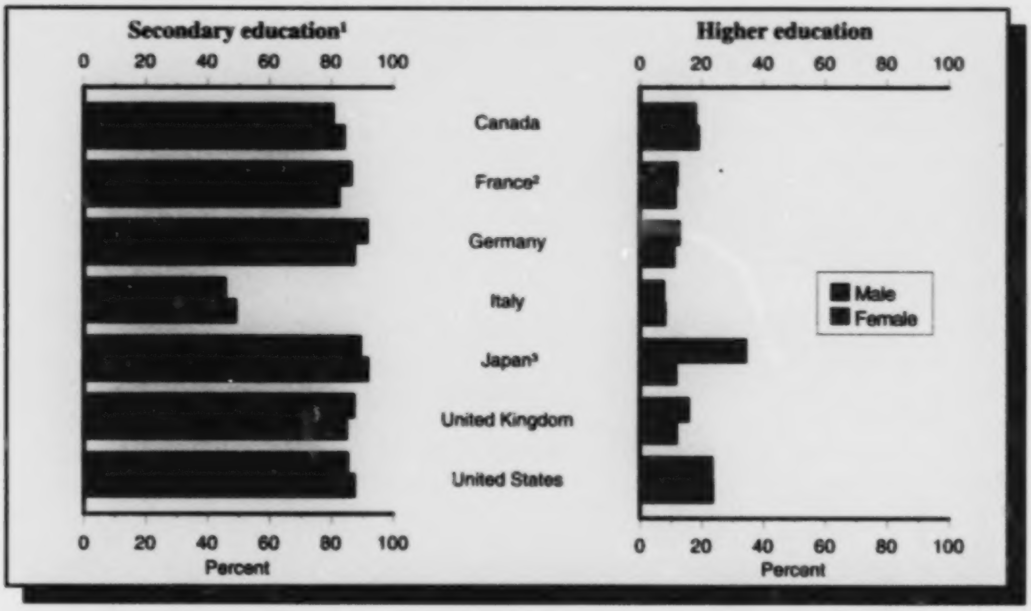
[3] Data are for 1989.

NOTE: In the United States, completing secondary education is defined as graduating from high school or earning a GED; completing higher education is defined as earning a bachelor's degree or higher.

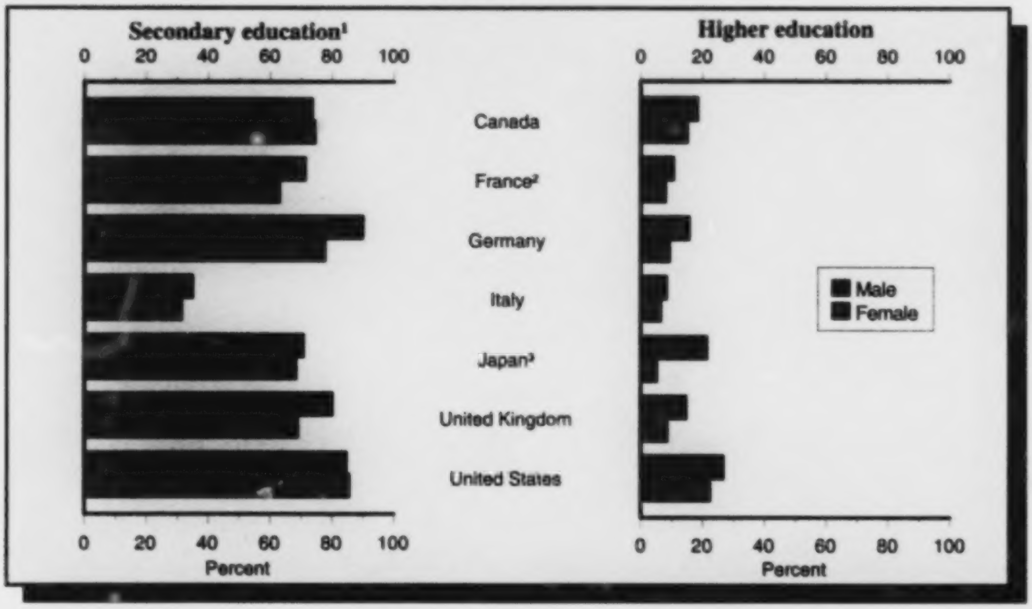
SOURCE: Organization for Economic Co-operation and Development, INES Project, International Indicators Project.

Percentage of the population in large industrialized countries who completed secondary and higher education, by age, sex, and country: 1994

25–34 years old



25–64 years old



[1] Includes individuals who have at least completed secondary education.

[2] France's definitions of ISCED levels were changed so that they are more similar to EUROSTAT definitions and are easier to compare to the definitions of other countries. As a result, data for 1994 are not directly comparable with data for other years.

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NOTE: In the United States, completing secondary education is defined as graduating from high school or earning a GED; completing higher education is defined as earning a bachelor's degree or higher.

SOURCE: Organization for Economic Co-operation and Development, INES Project, International Indicators Project.

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High school mathematics and science course-taking patterns

Courses in mathematics and science can teach students to use higher level thinking skills to solve complex problems. These skills are considered valuable both in educational and marketplace settings. Analysis of course-taking patterns of high school graduates can indicate levels of exposure in these fields for individuals who are about to advance to higher education or to enter the work force.

- High school graduates in 1994 were more likely to take mathematics courses at the level of algebra I or higher and science courses at the level of biology or higher than their counterparts in 1982.

- The proportion of high school graduates who took algebra II and the proportion who took chemistry increased 7 percentage points between 1990 and 1994 and increased over 25 percentage points between 1982 and 1994 (to 59 and 56 percent, respectively).

- A larger percentage of 1994 graduates, both male and female, earned credit in biology, chemistry, and physics than their 1982 counterparts. Similar percentages of males and females earned credit in biology in both years. Females were more likely to earn credit in chemistry in 1994, while males were consistently more likely to earn credit in physics.

- The percentage of Hispanics and American Indians/Alaskan Natives taking algebra II more than doubled between 1982 and 1994, rising from 18 percent for Hispanics and from 11 percent for American Indians in 1982 to 51 percent for Hispanics and 39 percent for American Indians/Alaskan Natives in 1994 (see supplemental table 24-1).

Percentage of high school graduates taking selected mathematics and science courses in high school, by sex: 1982, 1987, 1990, and 1994

Mathematics and	Total				Male				Female			
science courses[1]	1982	1987	1990	1994	1982	1987	1990	1994	1982	1987	1990	1994
Mathematics[2]												
Algebra I	53.9	64.0	64.2	66.4	52.2	62.3	61.7	64.7	55.4	65.7	66.5	68.1
Geometry	45.5	59.7	63.4	70.4	45.0	58.8	62.4	68.3	45.9	60.4	64.4	72.4
Algebra II	32.2	48.1	51.7	58.6	32.4	47.3	50.0	55.4	32.0	48.9	53.3	61.6
Trigonometry	12.1	18.6	18.2	17.2	13.2	19.5	18.1	16.6	11.1	17.6	18.2	17.8
Analysis/pre-calculus	5.9	12.6	13.4	17.3	6.2	13.5	14.0	16.3	5.6	11.6	12.8	18.2
Calculus	4.6	6.0	6.5	9.2	5.1	7.4	7.5	9.4	4.1	4.6	5.6	9.1
Science												
Biology	76.4	87.8	91.3	93.5	74.2	86.3	90.0	92.3	78.4	89.4	92.5	94.7
Chemistry	30.9	43.7	49.0	56.0	31.9	44.3	47.9	53.2	30.0	43.2	50.0	58.7
Physics	14.2	19.2	21.5	24.4	18.8	24.0	25.4	26.9	10.0	14.6	18.0	22.0
Biology and chemistry	28.1	42.1	47.6	53.8	28.2	42.2	46.4	50.9	28.0	42.0	48.8	56.6
Biology, chemistry, and physics	10.6	16.4	18.8	21.3	13.4	20.1	21.8	23.1	7.9	12.8	16.1	19.6

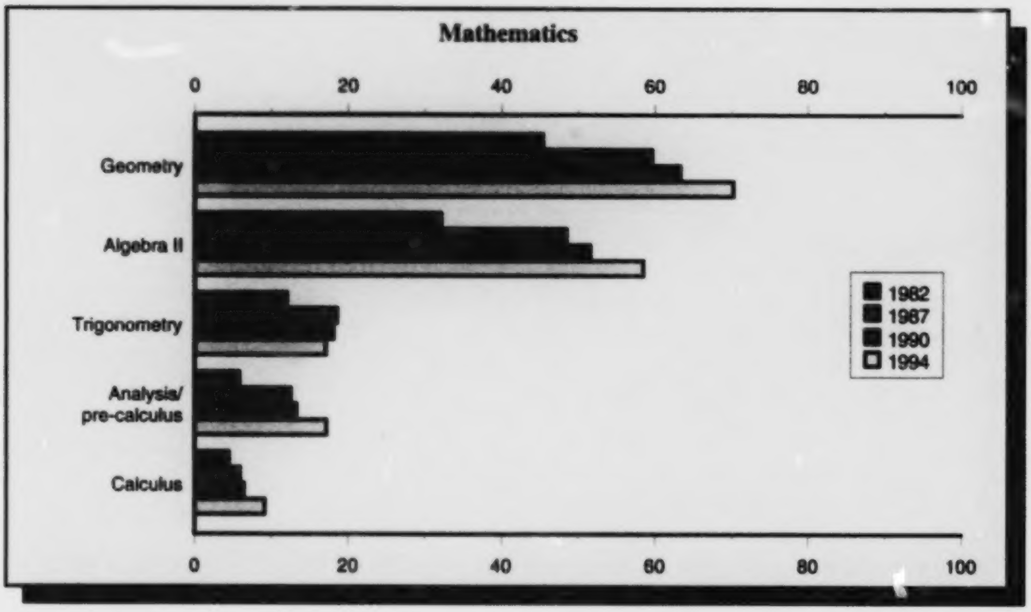
[1] The minimum number of units used for inclusion in this indicator was 1.0 for individual courses except for algebra II, trigonometry, and analysis/pre-calculus where 0.5 was set as the minimum number of credits.

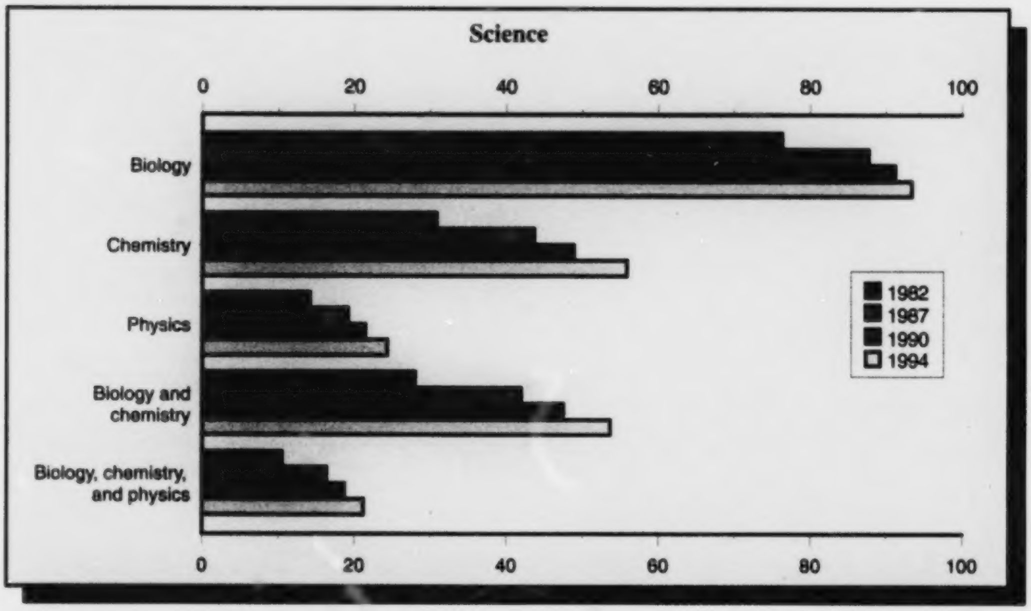
[2] These data only report the percentage of students who earned credit in mathematics courses while in high school and do not count those students who took these courses prior to entering high school. In 1992, for example, approximately 93 percent of students had taken algebra I at any time prior to graduating from high school, and about 70 percent had taken geometry.

NOTE: See the supplemental note to this indicator for further explanation of courses and definitions.

SOURCE: U.S. Department of Education, National Center for Education Statistics. *The 1994 High School Transcript Study Tabulations: Comparative Data on Credits Earned and Demographics for 1994, 1990, 1987, and 1982 High School Graduates*, 1996.

Percentage of high school graduates taking selected mathematics and science courses in high school: 1982, 1987, 1990, and 1994





SOURCE: U.S. Department of Education, National Center for Education Statistics, *The 1994 High School Transcript Study Tabulations: Comparative Data on Credits Earned and Demographics for 1994, 1990, 1987, and 1982 High School Graduates,* 1996.

Students taking Advanced Placement (AP) examinations

Participation in the Advanced Placement (AP) program is associated with a demanding academic curriculum and illustrates the desire of schools, colleges, and universities to offer college-level courses in high school. By participating in the AP program, high school students may acquire college credit for their knowledge of college-level subjects. Measuring the number of students who participated in AP examinations per 1,000 11th- and 12th-grade students each year suggests the level of importance students, schools, and colleges place on the AP program and how that importance has changed over time.

- Between 1984 and 1995, the number of students taking AP examinations increased dramatically, rising from 24 students per 1,000 11th- and 12th-grade students to 66 students per 1,000. The number of examinees increased for both sexes and all racial/ethnic groups during this period.
- In 1984, similar numbers of males and females (per 1,000 11th- and 12th-grade students) took AP examinations. Between 1984 and 1995, the number of females who took the exams (per 1,000 11th- and 12th-grade students) rose at a faster rate than did the number of males who took AP examinations. In 1995, 74 females per 1,000 11th- and 12th-grade female students took the exams, compared to 58 males per 1,000 11th- and 12th-grade male students.
- In 1995, females were more likely to take AP examinations in social studies subjects, English, and foreign language than were their male counterparts, who were slightly more likely to take examinations in calculus and science subjects.
- Whites were both more likely to take exams and to score 3 or higher on a social studies subject, English, calculus, and science subject AP examinations than were blacks or Hispanics.

Number of students who took AP examinations (per 1,000 11th- and 12th-grade students), by sex and race/ethnicity: 1984–95

Sex and race/ethnicity	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
Total	**24**	**29**	**33**	**36**	**39**	**44**	**48**	**53**	**57**	**62**	**60**	**66**
Sex												
Male	24	29	33	35	38	42	46	51	53	56	53	58
Female	25	29	33	37	40	47	51	56	62	68	68	74
Race/ethnicity												
White	23	29	32	34	40	45	48	54	58	61	60	65
Black	4	5	6	8	9	11	13	15	14	16	14	18
Hispanic	10	14	14	17	22	31	32	32	37	40	34	42

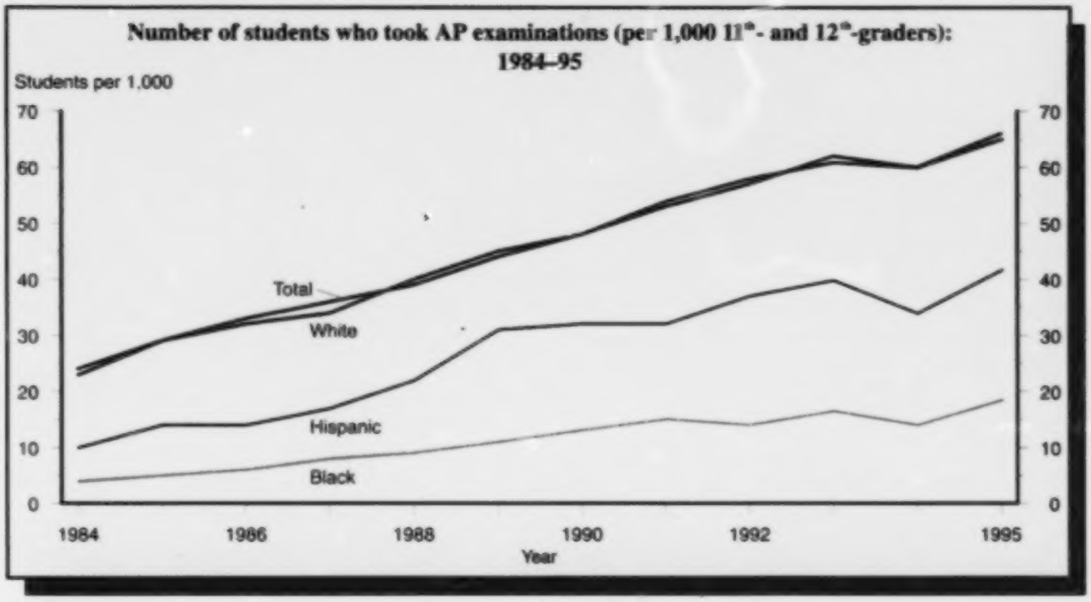
Number of AP examinations taken and the number of examinations with scores of 3 or higher (per 1,000 11th- and 12th-grade students), by subject area, sex, and race/ethnicity: 1995

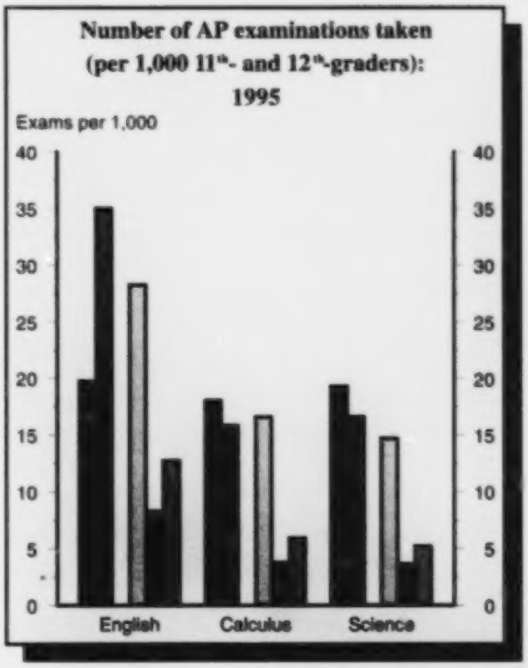
	Number of AP examinations taken						Number of examinations with scores of 3 or higher					
Sex and race/ethnicity	Social studies	English	Foreign language	Calculus	Computer science	Science	Social studies	English	Foreign language	Calculus	Computer science	Science
Total	**32**	**27**	**9**	**17**	**2**	**18**	**18**	**17**	**6**	**10**	**1**	**11**
Sex												
Male	29	20	6	18	1	19	18	13	4	12	1	13
Female	34	35	11	16	0	17	18	22	8	9	0	9
Race/ethnicity												
White	32	28	6	17	1	15	19	19	4	10	1	9
Black	8	8	1	4	0	4	3	3	1	1	0	1
Hispanic	14	13	23	6	1	5	6	6	21	3	0	2

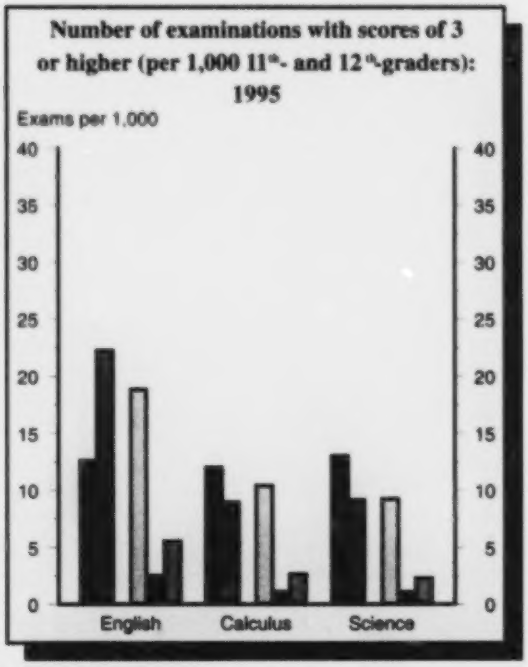
NOTE: Students scoring 3 or higher on an AP examination usually receive college credit. Since, on average, AP candidates take more than one examination, there is not a 1:1 ratio between candidates and examinations. See the supplemental note to this indicator for a description of AP course categories and a discussion of the calculations for this analysis. Analysis includes a small number of college students who took the exams (2 percent of all candidates in 1995).

SOURCE: The College Board, Advanced Placement Program, *National Summary Reports*, various years (Copyright © 1996 by the College Entrance Examination Board. All rights reserved.). U.S. Department of Commerce, Bureau of the Census, October Current Population Surveys.

Student participation in AP examinations


Number of students who took AP examinations (per 1,000 11th- and 12th-graders): 1984–95


Number of AP examinations taken (per 1,000 11th- and 12th-graders): 1995


Number of examinations with scores of 3 or higher (per 1,000 11th- and 12th-graders): 1995

■ Male ■ Female ☐ White ■ Black ■ Hispanic

NOTE: Students scoring 3 or higher on an AP examination usually receive college credit. Since, on average, AP candidates take more than one examination, there is not a 1:1 ratio between candidates and examinations. See the supplemental note to this indicator for a description of AP course categories and a discussion of the calculations for this analysis. Analysis includes a small number of college students who took the exams (2 percent of all candidates in 1995).

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Remedial education in higher education institutions

The role of remedial courses in higher education institutions has been the subject of ongoing debate among policymakers and educators. Some view remedial courses as a way to expand educational opportunities for unprepared students, while others feel that remedial courses should be discouraged because precollege-level courses have no place in the college curriculum. The percentage of institutions offering remedial courses and the percentage of freshmen who enroll in these courses provide a snapshot of the current availability and the demand for these courses at higher education institutions.

- The percentage of freshmen enrolled in remedial courses and the percentage of institutions offering remedial courses was similar in 1989 and 1995.
- In 1995, freshmen were more likely to enroll in a remedial mathematics course than in a remedial reading or writing course. In fact, from 1989 to 1995, the percentage of freshmen who enrolled in a remedial mathematics course increased, while the percentage who enrolled in a remedial reading or writing course was similar.
- In 1995, freshmen in public 2-year colleges were far more likely to enroll in remedial courses than freshmen in public 4-year institutions (41 compared to 22 percent, respectively).
- Almost all public 2-year institutions offered remedial writing and mathematics courses, while about three-quarters of public 4-year institutions offered remedial courses in these subjects. Half of private 4-year institutions offered remedial writing and mathematics courses.
- A larger percentage of institutions with high minority enrollment offered remedial reading, writing, and mathematics courses than institutions with low minority enrollment.

Percentage of freshmen enrolled in remedial courses, by subject, control and type of institution, and minority enrollment: Fall 1989 and 1995

		1995							
			Public		Private		Minority enrollment*	
Subject	Fall 1989	Total	2-year	4-year	2-year	4-year	High	Low
Reading, writing, or mathematics	30	29	41	22	26	13	43	26
Reading	13	13	20	8	11	7	25	11
Writing	16	17	25	12	18	8	29	15
Mathematics	21	24	34	18	23	9	35	21

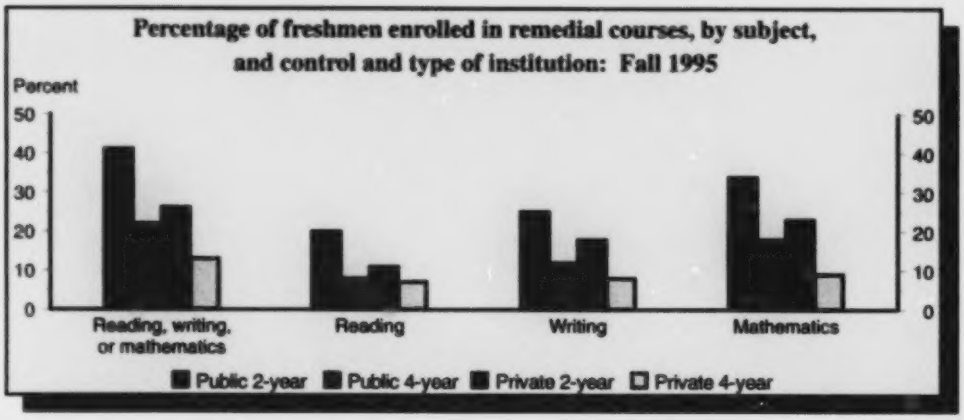
Percentage of higher education institutions offering remedial courses, by subject, control and type of institution, and minority enrollment: Fall 1989 and 1995

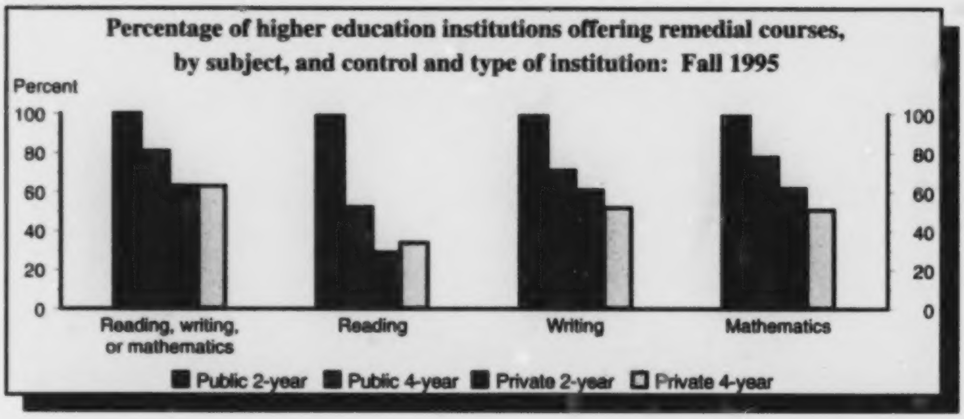
		1995						
			Public		Private		Minority enrollment*	
Subject	Fall 1989	Total	2-year	4-year	2-year	4-year	High	Low
Reading, writing, or mathematics	74	78	100	81	63	63	94	76
Reading	58	57	99	52	29	34	87	53
Writing	65	71	99	71	61	52	85	70
Mathematics	68	72	99	78	62	51	93	70

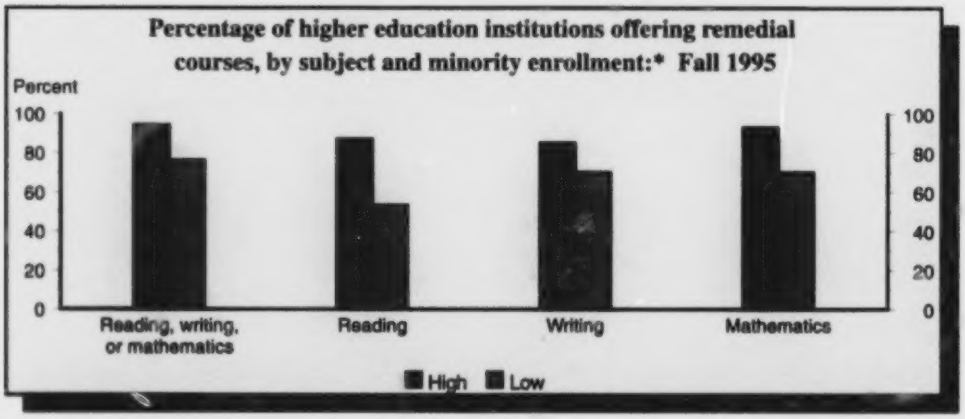
* Institutions with high minority enrollment are defined as those in which total student enrollment, excluding non-resident aliens, is less than 50 percent white students.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Remedial Education at Higher Education Institutions in Fall 1995.*

Remedial education in higher education


Percentage of freshmen enrolled in remedial courses, by subject, and control and type of institution: Fall 1995


Percentage of higher education institutions offering remedial courses, by subject, and control and type of institution: Fall 1995


Percentage of higher education institutions offering remedial courses, by subject and minority enrollment:* Fall 1995

* Institutions with high minority enrollment are defined as those in which total student enrollment, excluding non-resident aliens, is less than 50 percent white students.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Remedial Education at Higher Education Institutions in Fall 1995.*

Bachelor's degrees conferred, by field of study

Changing opportunities within the job market affect the fields in which students choose to major. In turn, the majors that students choose affect the demand for courses and faculty, as well as the supply of new graduates in different fields. Trends in the number and proportion of bachelor's degrees conferred in different fields help to identify these changing conditions.

- After declining for several years, the number of degrees conferred in the humanities and the social and behavioral sciences has grown since the mid-1980s. Combined with business management degrees, these three types of degrees have constituted half or more of all degrees conferred since 1971.
- After a sharp decline between 1986 and 1991, the number of degrees conferred in computer sciences and engineering leveled off between 1991 and 1994 (see supplemental table 27-1).
- Degrees in the natural sciences as a percentage of all degrees conferred dropped from 10 percent in 1971 to 7 percent in 1994; a major factor in this decrease was the sharp decline in the percentage of degrees conferred in mathematics between 1971 and 1981 (see supplemental table 27-2).
- The percentage of degrees awarded in education dropped by more than one-half between 1971 and 1994, declining from 21 percent to 9 percent.

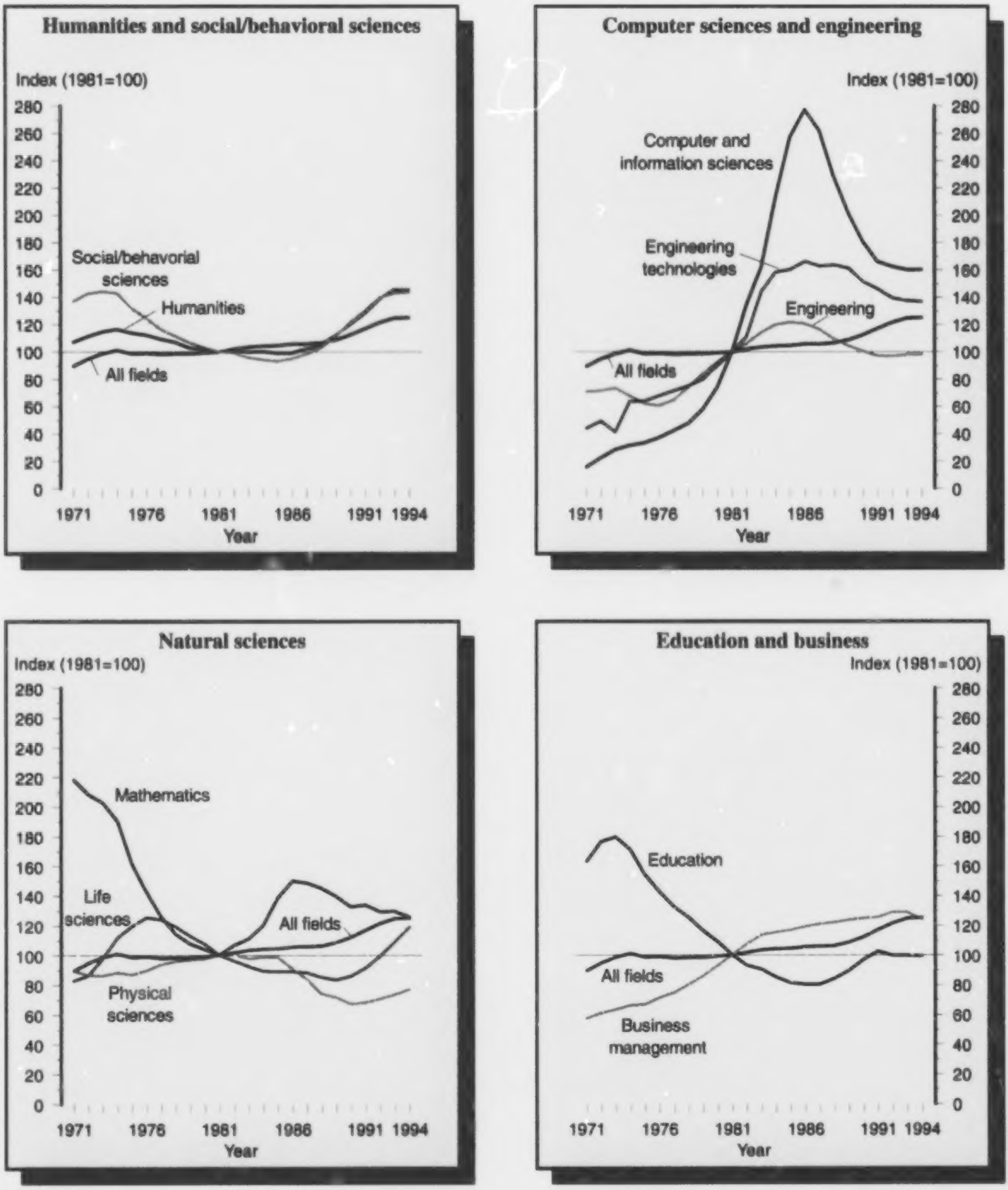
Index of the number of bachelor's degrees conferred, and the percentage of total bachelor's degrees conferred, by field of study: Selected academic years ending 1971–94

Field of study	1971	1976	1981	1986	1991	1992	1993	1994
			Index of the number of degrees (1981=100)					
All fields	**89.8**	**99.0**	**100.0**	**105.6**	**117.0**	**121.5**	**124.6**	**125.0**
Humanities	107.1	112.4	100.0	99.0	128.6	138.7	145.1	145.1
Social/behavioral sciences	136.7	124.8	100.0	95.0	129.8	139.5	143.0	143.3
Life sciences	82.7	125.6	100.0	89.1	91.5	99.4	108.8	118.9
Physical sciences	89.4	89.6	100.0	90.7	68.2	70.8	73.3	76.8
Mathematics	218.1	142.8	100.0	150.0	133.9	129.3	129.6	125.9
Computer and information sciences	15.8	37.4	100.0	277.0	165.9	162.4	160.0	160.0
Engineering	70.9	60.7	100.0	120.4	97.2	96.7	97.9	98.3
Engineering technologies	44.0	67.8	100.0	165.9	146.2	139.5	137.3	136.6
Education	163.1	142.9	100.0	80.6	102.5	99.9	99.7	99.6
Business management	57.7	71.4	100.0	119.3	125.3	129.0	129.1	124.0
Health sciences	39.6	84.8	100.0	101.2	92.8	97.0	105.4	116.9
Other technical/professional	43.2	86.6	100.0	97.3	109.2	119.4	124.7	127.6
			Percentage of total degrees					
All fields	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Humanities	17.1	16.3	14.3	13.4	15.7	16.3	16.7	16.6
Social/behavioral sciences	23.0	19.1	15.1	13.6	16.8	17.4	17.4	17.4
Life sciences	4.3	5.9	4.6	3.9	3.6	3.8	4.0	4.4
Physical sciences	2.5	2.3	2.6	2.2	1.5	1.5	1.5	1.6
Mathematics	3.0	1.8	1.2	1.7	1.4	1.3	1.3	1.2
Computer and information sciences	0.3	0.6	1.6	4.2	2.3	2.2	2.1	2.1
Engineering	5.3	4.1	6.8	7.7	5.6	5.4	5.3	5.3
Engineering technologies	0.6	0.9	1.3	2.0	1.6	1.4	1.4	1.4
Education	21.0	16.7	11.6	8.8	10.1	9.5	9.3	9.2
Business management	13.7	15.3	21.3	24.0	22.8	22.6	22.0	21.1
Health sciences	3.0	5.9	6.8	6.5	5.4	5.4	5.8	6.4
Other technical/professional	6.2	11.2	12.8	11.8	12.0	12.6	12.9	13.1

NOTE: Details may not add to totals due to rounding. See the supplemental note to this indicator for a description of the fields of study.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Digest of Education Statistics, 1996* (based on IPEDS/HEGIS "Completions" surveys).

Index of the number of bachelor's degrees conferred (1981=100), by selected fields of study: Academic years ending 1971–94



NOTE: See the supplemental note to this indicator for a description of the fields of study.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Digest of Education Statistics, 1996* (based on IPEDS/HEGIS "Completions" surveys).

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Graduate field of study, by sex

Changing opportunities within the job market affect the fields in which males and females choose to earn a graduate degree. The female field concentration ratio shows how much the fields studied by females differ from those studied by males. A ratio above 1.0 indicates that females are more likely than males to major in a field, and a ratio below 1.0 indicates the opposite pattern. Changes in the ratio show whether differences in the field preferences of males and females are narrowing or widening, and also may indicate changes in females' occupations and earning potential compared to those of males.

- Overall, in 1994, substantially more females than males earned graduate degrees in education and health professions. A higher proportion of males than females earned graduate degrees in natural sciences, computer sciences and engineering, and business management.

- Between 1970 and 1986, the difference in the proportion of men and women earning master's degrees in computer sciences and engineering narrowed each year. Since 1986, it has remained stable with males being five times more likely than females to earn a master's degree in computer sciences and engineering.

- Although differences in the proportions of males and females earning master's degrees in business management narrowed between 1971 and the mid-1980s when the trend leveled off, males were still twice as likely as females to earn a master's degree in business management in 1994.

- From 1971 to 1983, a higher percentage of males than females earned master's degrees in the social and behavioral sciences. From 1984 to 1994, a higher percentage of females than males earned master's degrees in this field. At the doctorate level, females have been consistently more likely to earn a degree in the social and behavioral sciences since 1971 (see supplemental table 28-1).

Female field concentration ratio[1] of graduate degrees conferred, by field of study and degree level: Selected academic years ending 1971–94

Field of study and degree level	1971	1974	1977	1980	1983	1986	1989	1992	1993	1994
Master's degrees										
Humanities	1.58	1.34	1.17	1.08	1.06	1.12	1.06	1.08	1.08	1.09
Social/behavioral sciences	0.69	0.67	0.76	0.88	0.99	1.08	1.07	1.05	1.08	1.10
Natural sciences	0.48	0.43	0.44	0.43	0.48	0.53	0.56	0.54	0.55	0.55
Computer sciences and engineering	0.03	0.05	0.07	0.11	0.15	0.20	0.19	0.19	0.19	0.19
Education	1.92	1.99	2.18	2.42	2.64	2.66	2.84	2.84	2.81	2.75
Business management	0.06	0.09	0.19	0.30	0.41	0.45	0.47	0.46	0.47	0.48
Health professions	1.85	2.00	2.37	2.66	3.01	3.16	3.29	3.30	3.31	3.19
Other technical/professional[2]	1.56	1.24	1.04	1.10	1.22	1.27	1.30	1.33	1.35	1.33
Doctor's degrees										
Humanities	1.89	1.71	1.41	1.10	1.09	1.08	1.05	1.13	1.13	1.09
Social/behavioral sciences	1.29	1.28	1.29	1.30	1.38	1.42	1.48	1.50	1.56	1.54
Natural sciences	0.67	0.63	0.56	0.56	0.59	0.58	0.64	0.69	0.70	0.69
Computer sciences and engineering	0.04	0.08	0.11	0.11	0.11	0.15	0.18	0.19	0.18	0.21
Education	1.60	1.52	1.61	1.86	1.99	2.10	2.32	2.47	2.35	2.48
Business management	0.17	0.24	0.21	0.41	0.41	0.52	0.65	0.51	0.63	0.63
Health professions	1.19	1.24	1.46	1.91	1.57	1.94	2.35	2.33	2.18	2.25
Other technical/professional[2]	0.76	0.70	0.88	0.87	0.83	1.00	0.98	1.01	1.09	1.07

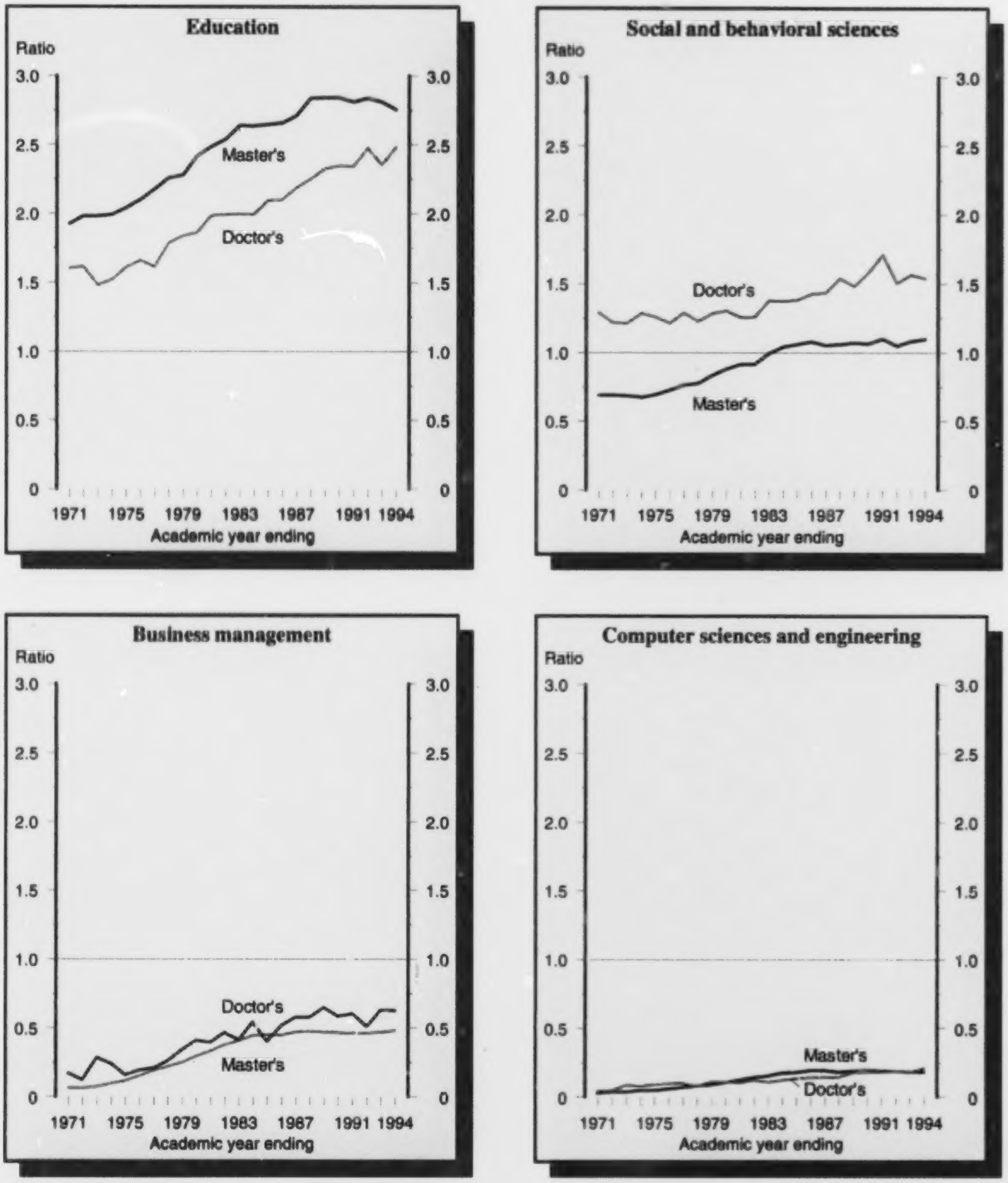
[1] The female field concentration ratio is calculated as the percentage of females earning degrees who majored in a specific field divided by the percentage of males earning degrees who majored in the same field. Includes degrees conferred to U.S. and non-U.S. citizens.

[2] Principally composed of public administration at the master's degree level and agriculture and natural resources at the doctor's degree level. See the glossary for a full definition of "other technical/professional" fields.

NOTE: See the supplemental note to *Indicator 27* for a description of the fields of study.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Digest of Education Statistics, 1996* (based on IPEDS/HEGIS "Completions" surveys).

Female field concentration ratio* of graduate degrees conferred: Academic years ending 1971–94



* The female field concentration ratio is calculated as the percentage of females earning degrees who majored in a specific field divided by the percentage of males earning degrees who majored in the same field. Includes degrees conferred to U.S. and non-U.S. citizens.

NOTE: See the supplemental note to *Indicator 27* for a description of the fields.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Digest of Education Statistics, 1996* (based on IPEDS/HEGIS "Completions" surveys).

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Economic and Other Outcomes of Education

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Economic and Other Outcomes of Education

Education is an investment in human skills, and like all investments, it involves both costs and returns. The cost of finishing high school to the student is quite low: it consists of the relatively low wages earned by a 16- to 19-year-old dropout. However, the cost to the student of attending college is higher because it includes tuition, books, fees, and the earnings a student gives up either by not working at all during college or by working part time. The returns of a high school and college degree come in many forms; for example, money, personal satisfaction, social position, and economic growth. While some returns accrue for the individual, others benefit society and the Nation in general. Returns related to the economy, specifically the labor market, include better job opportunities and jobs that are less sensitive to general economic conditions. Returns for the individual include opportunities to participate in employer-provided training and higher earnings. Other societal returns that are often attributed to education include a greater interest and participation in civic affairs.

Since the costs and returns of investing in education change over time, the incentive for individuals to participate changes as well. This section presents measures that illustrate the rewards of finishing high school (or conversely, the penalties of not finishing) and the rewards of investing in postsecondary education.

Penalties of not graduating from high school

The data in the indicators that follow suggest some general conclusions regarding the labor market penalties of not finishing high school. The difficulty of making the immediate transition from attending school full time to working full time appears much greater for those who leave high school before graduating. Without prior job experience or specialized training, school leavers may have difficulty finding jobs that they are willing to take. In October 1995, 63 percent of recent high school graduates who were not enrolled in college were employed, compared to 48 percent of recent school dropouts. The employment rates of high school graduates vary by race/ethnicity, however. For example, white recent high school graduates who were not enrolled in college were more likely to be employed than their black or Hispanic counterparts in October 1995 (*Indicator* 29).

As individuals enter their 20s and early 30s, some of the problems they face during the transition from school to the work force are solved, but the disadvantage of not having a high school diploma persists. For example, in March 1996, 75 percent of males aged 25–34 who completed 9–11 years of school were employed, compared to 86 percent of males in this age group who graduated from high school. Among females aged 25–34, less than half (46 percent) of high school dropouts were employed, compared to 66 percent of their female peers with a high school diploma *(Indicator 32)*.

Of those who were employed, the earnings disadvantage of not finishing high school is apparent. Among workers aged 25–34, those who completed 9–11 years of school earned substantially less than those who completed high school. In 1995, for example, the median annual salary of males with 9–11 years of school was only 74 percent of the median salary of high school graduates. The median annual salary of female high school dropouts was only 62 percent of that of female high school graduates *(Indicator 33)*.

Transition to work for non-college-bound high school graduates

As with high school dropouts, the main concern of individuals who graduate from high school but do not attend college is how to make a successful transition to full-time employment. Many are concerned that non-college-bound high school graduates are ill prepared to enter the work force and that their opportunities for employment and earnings have decreased over time. Compared to 1982 high school graduates, 1992 high school graduates earned less (in constant 1996 dollars) and held more jobs during their first full year after graduation. Working while in high school and the number of hours students were employed were associated with continuous employment and earnings for 1982 graduates but not for 1992 graduates *(Indicator 30)*.

Rewards of college attendance and graduation

The decision to attend college is often influenced by the hope for better employment opportunities and greater earnings potential. Generally, between 1971 and 1996, the percentage of 25- to 34-year-olds who were employed was greater among those individuals with a higher level of education. In 1996, male and female college graduates aged 25–34 were more likely to be employed than male and female high school graduates of the same age (92 and 84 percent versus 86 and 66 percent, respectively) *(Indicator 32)*.

The financial returns of attending and graduating from college become evident when comparing the ratio of the median annual earnings of those who attended and graduated from college to the median annual earnings of high school graduates. In 1995, males aged 25–34 who had completed a bachelor's degree earned 52 percent more than their male peers who had only a high school diploma. For females in the same age group, the earnings premium was even higher. That is, females who completed a bachelor's degree earned 91 percent more than females with only a high school diploma. Since 1970, the earnings advantage for those who attended some college or earned a bachelor's degree or higher was generally greater for female than for male 25- to 34-year-olds (*Indicator 33*).

While both males and females who persist in their education have substantial earnings advantages compared to high school dropouts, there is an enduring difference between the earnings of males and females with the same educational attainment. Among full-time, year-round workers, males earned more than females across all levels of education. In 1995, for instance, the median income for male college graduates (in 1996 constant dollars) was $38,033 compared to $30,750 for female college graduates (table 33-1).

When students decide what to study in college, they often think about the possibilities of obtaining a job related to their major, and the earnings potential associated with these jobs. In April 1994, about three-fourths (78 percent) of 1992–93 graduates who were working and not enrolled reported having a job related to their major. A similar proportion (76 percent) reported that their jobs had career potential *(Indicator 31)*. The median starting salary (in 1996 constant dollars) for 1992–93 graduates who worked full time and were not enrolled in school was $23,600. Graduates who majored in computer sciences and engineering had higher starting salaries than average, while students who majored in the humanities, social and behavioral sciences, natural sciences, and education had the lowest starting salaries *(Indicator 34)*.

The majors that both sexes choose may account for some of the salary differences between male and female college graduates. In 1993, females were more likely than males to major in education, and males were more likely to major in computer sciences and engineering. Nevertheless, among college graduates who were working full time and not enrolled in school whose majors were business and management, social and behavioral sciences, and natural sciences, females earned less than males *(Indicator 34)*.

Performance of community service

Education plays a vital role in preparing individuals to actively participate in the political, economic, and social lives of their communities. One aspect associated with education is performing community service. Since community service is viewed as a benefit to the community and the individual, many have expressed interest in involving a greater number of high school students in community service activities.

Performing community service in high school is positively associated with performing community service after graduation. For example, high school seniors from 1992 who performed community service in high school were more likely to have performed community service 2 years later than those seniors who had not performed community service in high school (61 versus 30 percent, respectively) *(Indicator 35)*.

Whether individuals attend a postsecondary institution is also positively associated with performing community service. Among the 1992 high school seniors who had attended some college by 1994, 50 percent reported performing community service during the previous year, compared to 24 percent of the 1992 high school seniors who had not attended college *(Indicator 35)*.

Transition from high school to work

The transition from high school to work can be difficult. Without prior job experience or specialized training, school leavers may find it difficult to find jobs they are willing to take. The employment rate among school leavers, both those who have not finished high school and those who have finished but have not gone on to college, indicates the difficulty of making this transition.

- In 1995, 63 percent of recent high school graduates not enrolled in college were employed, compared to 48 percent of recent school dropouts.
- During the period of economic recession between 1989 and 1992, the employment rates in both groups fell about 10 percentage points. However, in 1993, the employment rate for recent school dropouts increased markedly, rising more than 10 percentage points.
- In 1995, white recent high school graduates not enrolled in college were more likely to be employed than their black or Hispanic counterparts.
- Between 1960 and 1995, male recent high school graduates not enrolled in college and recent school dropouts were more likely than their female counterparts to be employed (see supplemental table 29-1).

Employment rates for recent high school graduates not enrolled in college and for recent school dropouts, by race/ethnicity: Selected Octobers 1972–95

October	Recent high school graduates not enrolled in college				Recent school dropouts			
	Total*	White	Black	Hispanic	Total*	White	Black	Hispanic
1972	70.1	73.5	48.3	—	46.8	47.0	42.8	—
1974	69.1	72.9	46.0	—	49.3	53.9	36.2	—
1976	68.8	73.1	38.6	—	44.8	49.6	20.9	—
1978	74.9	79.0	45.8	68.9	51.2	54.2	22.3	—
1980	68.9	74.6	34.7	—	44.6	51.2	20.9	47.8
1982	60.4	68.4	29.3	43.5	38.0	44.6	16.2	—
1984	64.0	70.7	44.8	49.4	44.0	51.4	24.2	35.7
1986	65.2	71.5	41.1	64.6	48.0	50.4	31.5	46.5
1988	71.9	78.2	55.8	57.3	43.6	47.6	17.6	56.1
1989	71.7	77.6	53.7	49.4	46.7	57.6	26.4	—
1990	67.8	75.0	45.2	—	46.3	56.3	30.9	—
1991	59.6	67.0	32.3	—	36.8	38.6	24.7	—
1992	62.7	71.9	37.0	54.2	36.2	43.1	—	28.3
1993	64.2	71.8	42.3	42.9	46.9	52.6	27.1	—
1994	64.2	73.1	38.0	46.0	42.9	51.7	34.1	28.6
1995	63.1	71.4	51.5	42.1	47.7	51.6	33.5	48.5

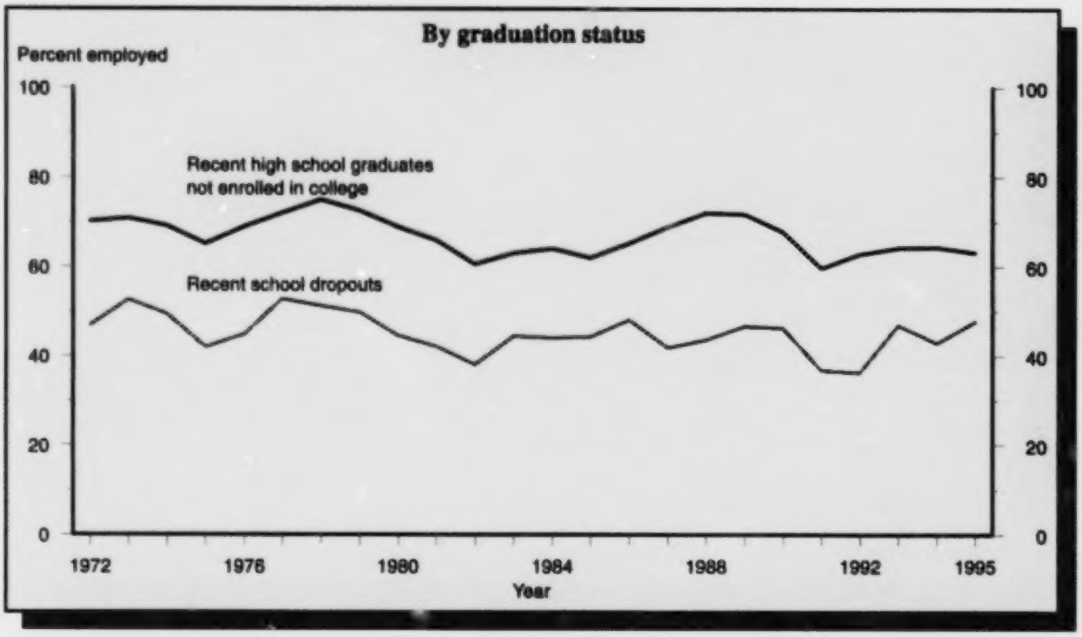
— Too few sample observations for a reliable estimate.

* Included in the total but not shown separately are high school graduates from other racial/ethnic groups.

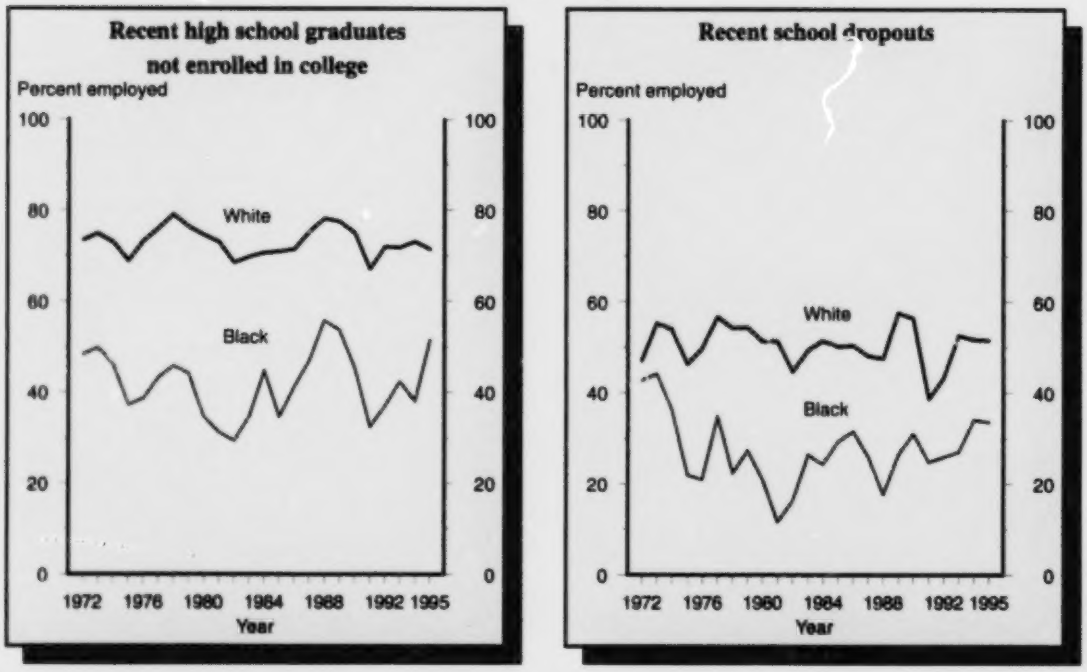
NOTE: Recent high school graduates are individuals aged 16–24 who graduated during the survey year. Recent school dropouts are individuals aged 16–24 who did not graduate and who were in school 12 months earlier but who were not enrolled during the survey month.

SOURCE: U.S. Department of Commerce, Bureau of the Census, October Current Population Surveys.

Employment rates for recent high school graduates not enrolled in college and for recent school dropouts: October 1972–95



By race/ethnicity



NOTE: Recent high school graduates are individuals aged 16–24 who graduated during the survey year. Recent school dropouts are individuals aged 16–24 who did not graduate and who were in school 12 months earlier, but who were not enrolled during the survey month.

There were too few sample observations for a reliable estimate of black recent school dropouts in 1992.

SOURCE: U.S. Department of Commerce, Bureau of the Census, October Current Population Surveys.

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Labor market outcomes for non-college-bound high school graduates

Labor market outcomes for non-college-bound high school graduates are influenced by student characteristics, such as motivation and work commitment, skills and knowledge acquired during high school, and previous work experience. Many are concerned that the non-college-bound are ill prepared to enter the work force and that their employment rates and earnings—both of which are important indicators of how well they are faring—have deteriorated over time.

- Non-college-bound 1992 high school graduates worked more months and spent less time out of the labor force in the first year after graduation than did 1982 graduates.
- Two-thirds of non-college-bound 1992 graduates worked continuously in the first year after high school, compared to about half (48 percent) of non-college-bound 1982 graduates.
- The 87 percent of non-college-bound 1992 graduates who worked earned less and had more jobs in the first full year after leaving high school, compared to the 81 percent of non-college-bound 1982 graduates who worked.
- Working while in high school and the number of hours students were employed were associated with earnings and continuous employment for 1982 graduates but not for their 1992 counterparts.

Average number of months non-college-bound high school graduates were employed, unemployed, or not in the labor force, and their average earnings, hours worked per week, number of jobs, and the percentage who worked continuously in the first year after high school: 1983 and 1993

Student characteristics	Average months employed	Average months unemployed	Average months not in labor force	Average earnings[1]	Average hours worked per week[2]	Average number of jobs	Percentage continuously employed[3]
				1982 Graduates			
Total	**8.0**	**1.0**	**3.1**	**$11,272**	**39.2**	**1.2**	**47.6**
Employed during high school							
Yes	8.3	0.8	2.9	11,575	39.6	1.2	51.0
No	6.4	1.6	4.1	8,972	36.5	1.1	31.2
Hours worked during high school[4]							
Less than 22	8.1	0.9	3.1	10,868	37.6	1.2	48.3
22–29	9.0	0.5	2.5	11,294	40.3	1.2	54.2
30–40	8.4	0.7	2.9	12,389	42.2	1.2	53.5
More than 40	9.4	0.5	2.0	14,585	46.4	1.2	66.3
High school GPA[5]							
Less than 1.75	6.7	1.4	3.9	10,766	38.5	1.0	36.0
1.75–2.74	8.1	0.9	3.0	11,486	39.3	1.2	49.9
2.75–3.74	8.6	0.8	2.7	10,959	39.2	1.3	50.2
3.75 or more	—	—	—	—	—	—	—
				1992 Graduates			
Total	**9.6**	**0.9**	**1.5**	**$10,168**	**40.4**	**1.6**	**66.9**
Employed during high school							
Yes	9.9	0.8	1.4	10,332	41.0	1.6	70.2
No	9.4	1.0	1.6	10,018	39.5	1.5	64.3
Hours worked during high school[4]							
Less than 21	9.8	0.9	1.3	10,111	39.9	1.5	72.0
21-30	9.7	0.9	1.4	9,628	40.7	1.8	67.5
31-40	9.8	0.5	1.7	11,577	44.5	1.6	66.8
More than 40	10.6	0.7	0.6	10,947	42.0	1.5	73.4
High school GPA[5]							
Less than 1.75	9.3	1.3	1.4	10,131	42.0	1.5	63.5
1.75–2.74	9.8	0.9	1.4	10,371	40.6	1.5	68.4
2.75–3.74	9.6	0.6	1.9	9,468	37.9	1.6	66.8
3.75 or more	—	—	—	—	—	—	—

— Too few sample observations for a reliable estimate.

[1] In constant 1996 dollars for those with positive earnings.

[2] Among those with positive hours worked.

[3] Working 12 consecutive months after high school graduation.

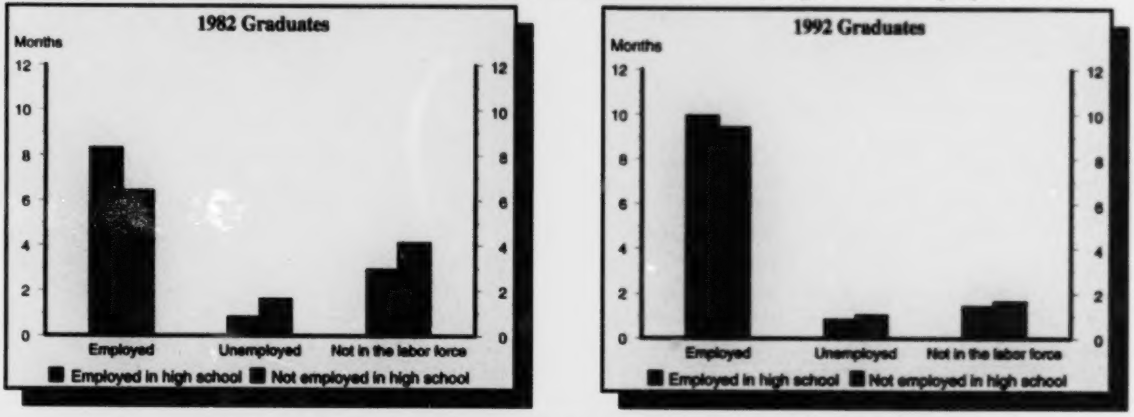
[4] Among those who worked in high school.

[5] Grade point average (GPA) from high school transcripts.

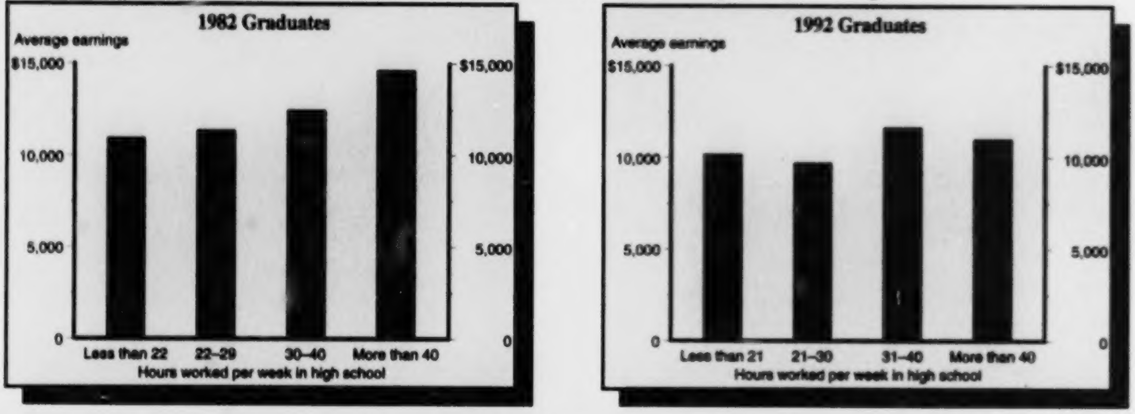
SOURCE: U.S. Department of Education, National Center for Education Statistics, High School and Beyond (HS&B) study, Sophomore Cohort, Fourth Follow-up Survey, and National Education Longitudinal Study of 1988, First, Second, and Third Follow-up Surveys.

Selected labor market outcomes for non-college-bound high school graduates in the first year after high school: 1983 and 1993

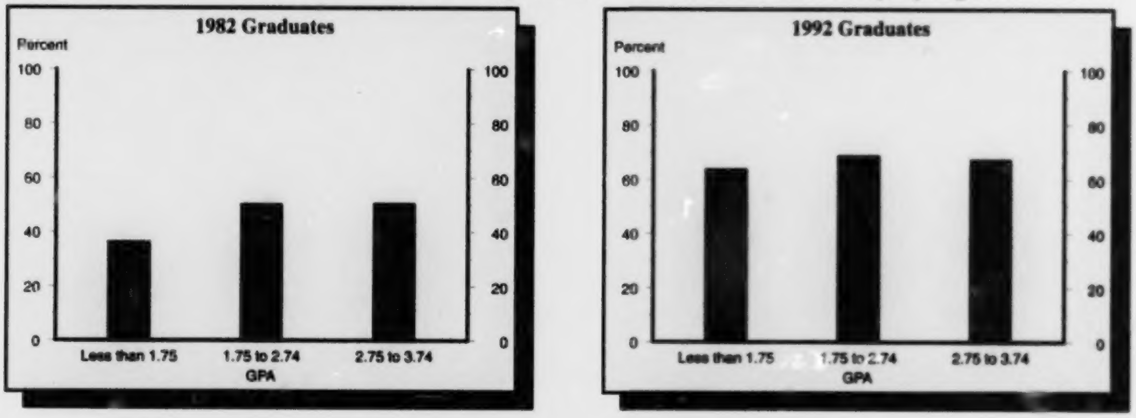
Average months employed, unemployed, and not in the labor force, by high school employment status



Average earnings,[1] by average number of hours worked per week in high school[2]



Percentage of non-college-bound high school graduates who worked continuously, by high school GPA[3]



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[1] In constant 1996 dollars for those with positive earnings.

[2] Among those who worked in high school.

[3] Grade point average (GPA) from high school transcripts.

NOTE: There were too few observations of GPAs of 3.75 or higher for a reliable estimate.

SOURCE: U.S. Department of Education, National Center for Education Statistics, High School and Beyond (HS&B) study, Sophomore Cohort, Fourth Follow-up Survey, and National Education Longitudinal Study of 1988, First, Second, and Third Follow-up Surveys.

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Transition from college to work

The attainment of a bachelor's degree is one measure of the skills learned through college attendance. In recent years, concern about the difficulties recent graduates encounter in making the transition from college to work has grown. Students, their families, and educational policymakers are interested in graduates' employment prospects and how they relate to their fields of study.

- In April 1994, two-thirds (67 percent) of recent college graduates were employed full time and were not enrolled in postsecondary education; 9 percent were employed part time and were not enrolled. About three-fourths (76 percent) of those who worked full time and who were not enrolled had jobs with career potential.

- Although about three-fourths (78 percent) of recent graduates who worked full time and who were not enrolled reported that their jobs were related to their field of study, only 60 percent reported that a college degree was required to get their job.

- There were no measurable differences among the percentages of recent graduates who were unemployed by field of study (see supplemental table 31-1).

- Females who majored in seven fields of study (business and management, public affairs/social services, biological sciences, mathematics and science, social sciences, humanities, and "other" majors) were more likely than males to work in the traditionally female occupations of administrative and clerical support (see supplemental table 31-1).

Percentage of 1992–93 college graduates, by employment and enrollment status, relatedness of jobs to education, and selected characteristics: April 1994

	Employment and enrollment status					Relatedness of job to education[1]		
Selected characteristics	Employed full time, not enrolled	Employed part time, not enrolled	In labor force, enrolled[2]	Not in labor force, enrolled	Not employed, not enrolled[3]	Job related to field of study	Job required college degree	Job had career potential
Total	**67.1**	**8.7**	**12.4**	**5.5**	**6.3**	**77.6**	**59.9**	**75.7**
Field of study								
Business and management	80.0	5.3	7.9	1.9	4.9	87.1	54.1	79.6
Education	59.9	16.1	14.4	4.8	4.8	80.4	72.1	78.1
Engineering	69.2	3.4	13.7	7.2	6.5	90.0	83.0	85.8
Health professions	68.6	8.4	12.9	4.5	5.6	94.4	77.4	84.6
Public affairs/social services	70.3	9.0	9.2	5.0	6.5	73.5	53.0	71.6
Biological sciences	44.3	8.4	17.4	18.3	11.5	69.5	54.7	62.1
Mathematics and science	60.8	8.5	14.9	9.9	5.9	87.1	71.0	80.8
Social sciences	66.6	7.0	13.1	6.1	7.2	57.7	48.8	72.3
History	64.9	8.1	16.4	6.6	4.0	40.6	43.4	69.3
Humanities	59.2	12.8	13.5	5.9	8.5	58.2	50.1	69.1
Psychology	56.5	6.9	19.5	8.8	8.3	59.2	54.5	54.1
Other	69.4	9.0	11.4	3.6	6.6	75.2	55.0	70.5
Sex								
Male	69.2	6.8	11.9	6.3	5.7	76.6	59.1	78.0
Female	65.3	10.3	12.8	4.7	6.9	78.4	60.5	73.6
College grade point average								
Less than 3.0	71.7	8.9	11.1	2.2	6.1	73.2	54.6	74.2
3.0 to 3.49	68.2	7.9	12.7	5.0	6.3	78.7	63.0	74.7
3.5 and higher	61.1	9.3	14.1	9.4	6.0	81.5	61.6	79.2

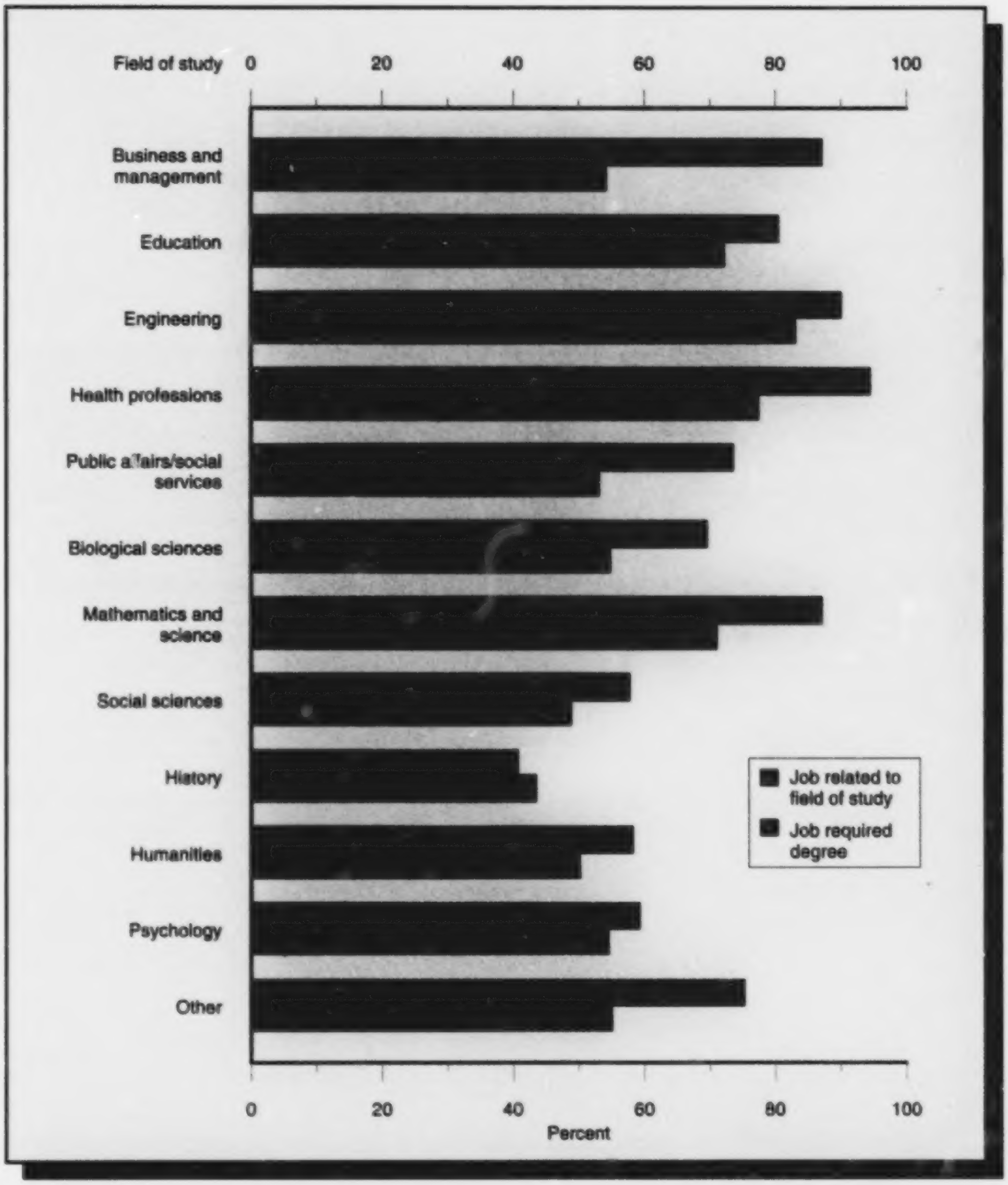
[1] Includes only those who worked full time and who were not enrolled in postsecondary education.

[2] Includes persons who worked full time or part time or who were unemployed.

[3] Includes persons who were not in the work force or who were unemployed.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1993 Baccalaureate and Beyond Longitudinal Study, First Follow-up (B&B:93/94).

Percentage of 1992–93 college graduates who worked full time and who were not enrolled in postsecondary education whose jobs were related to their field of study, and the percentage of those whose jobs required a college degree: April 1994



NOTE: Includes only those who worked full time and who were not enrolled in postsecondary education.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1993 Baccalaureate and Beyond Longitudinal Study, First Follow-up (B&B:93/94).

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Employment of young adults

The percentage of a population group with jobs is influenced by a variety of factors. Some factors influence the willingness of employers to offer jobs to individuals with different levels of education at the going wage rate, while others influence the willingness of these individuals to take jobs at the going wage rate. The higher the proportion of young adults who are employed, the better their labor market opportunities are relative to other things they could do and vice versa.

- Generally, between 1971 and 1996, the percentage of 25- to 34-year-olds who were employed was higher among those individuals with a higher level of education. In 1996, male and female college graduates aged 25–34 were much more likely to be employed than their counterparts who did not finish high school.

- The gap between the percentage of males and females aged 25–34 who were employed narrowed between 1971 and 1996 within each education group. The change was particularly noteworthy for college graduates, decreasing from 36 percentage points in 1971 to 8 percentage points in 1996, 45 to 11 percentage points for those with some college, 51 to 20 percentage points for those with a high school diploma, and 53 to 29 percentage points for those who did not finish high school.

- In 1996, the percentage of females aged 25–34 who were employed was higher than that in 1971, regardless of their education level. However, the percentage of females with a high school diploma or higher who were employed increased at a faster rate than did the percentage of females with less than a high school diploma.

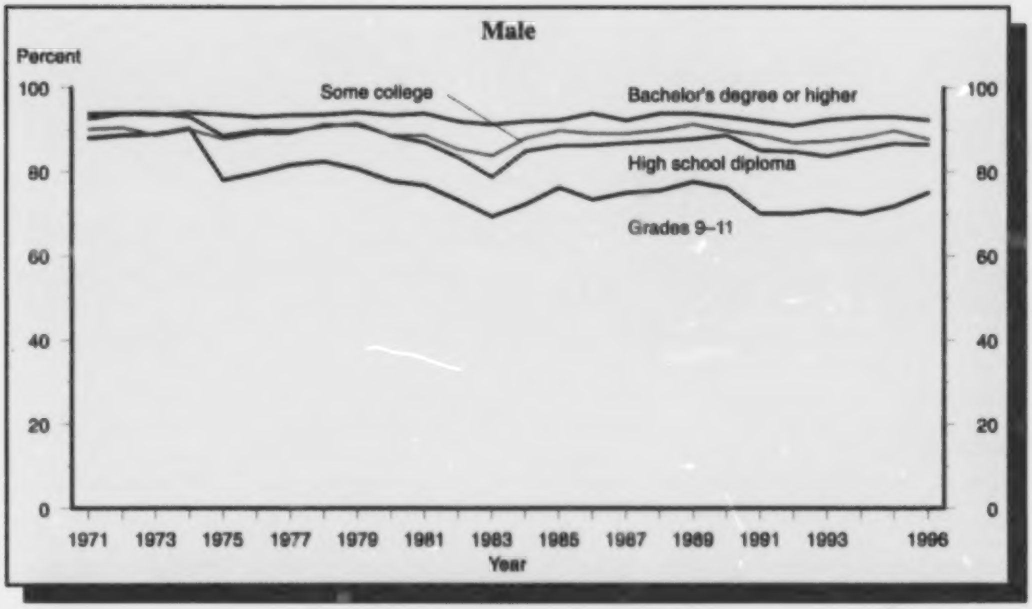
Percentage of 25- to 34-year-olds who were employed, by sex and years of school completed: Selected years March 1971–96

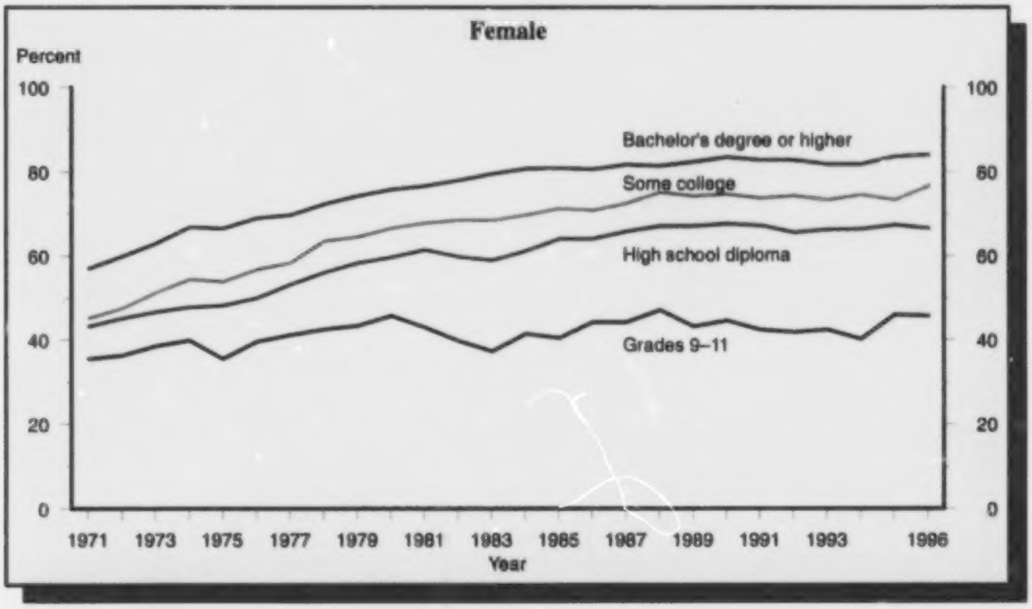
	Male				Female			
March	Grades 9–11	High school diploma	Some college	Bachelor's degree or higher	Grades 9–11	High school diploma	Some college	Bachelor's degree or higher
1971	87.9	93.6	89.9	92.5	35.4	43.1	44.9	56.9
1973	88.8	93.8	88.5	93.5	38.4	46.5	51.0	62.7
1975	78.0	88.4	87.7	93.5	35.4	48.1	53.6	66.3
1977	81.5	89.5	89.1	93.3	41.0	53.0	58.0	69.5
1979	80.5	91.3	90.9	94.1	43.2	58.0	64.2	74.0
1981	76.7	86.9	88.5	93.7	42.7	61.3	67.6	76.4
1983	69.3	78.6	83.8	91.1	37.1	58.8	68.3	79.2
1985	76.1	86.1	89.7	92.2	40.3	63.9	71.0	80.6
1987	75.0	86.8	89.0	92.1	44.0	65.6	72.2	81.4
1989	77.6	87.8	91.1	93.7	43.0	66.9	74.0	82.1
1991	69.9	84.9	88.6	91.8	42.3	67.0	73.5	82.6
1992	69.9	84.7	86.7	90.9	41.7	65.4	74.0	82.5
1993	71.0	83.6	87.2	92.3	42.2	66.0	73.0	81.6
1994	70.0	85.2	88.0	92.8	40.1	66.2	74.3	81.6
1995	71.8	86.6	89.6	92.9	45.8	67.2	73.0	83.4
1996	74.9	86.3	87.6	92.1	45.5	66.3	76.4	83.7

NOTE: In 1992, the Current Population Survey (CPS) changed the questions used to obtain the educational attainment of respondents. See the supplemental note to *Indicator 22* for further discussion.

SOURCE: U.S. Department of Commerce, Bureau of the Census, March Current Population Surveys.

Percentage of 25- to 34-year-olds who were employed, by years of school completed: March 1971–96





NOTE: In 1992, the Current Population Survey (CPS) changed the questions used to obtain the educational attainment of respondents. See the supplemental note to *Indicator 22* for further discussion.

SOURCE: U.S. Department of Commerce, Bureau of the Census, March Current Population Surveys.

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Annual earnings of young adults, by educational attainment

Wages and salaries are influenced by many factors, including the employer's perception of the productivity and availability of workers with different levels of education and the economic conditions in the industries that typically employ workers with different levels of education. Annual earnings are influenced by the number of weeks worked in a year and the usual number of hours worked each week. The ratio of annual earnings of high school dropouts or college graduates to those of high school graduates is affected by all of these factors: It is a measure of the earnings disadvantage of not finishing high school and the earnings advantage of completing college.

- In 1995, the median annual earnings of young adults aged 25–34 who had not completed high school were substantially lower than those of their counterparts who had completed high school (26 and 38 percent lower for males and females, respectively). Young adults who had completed a bachelor's degree or higher earned substantially more than those who had only completed high school (52 and 91 percent more for males and females, respectively).
- Between 1974 and 1995, the earnings advantage of obtaining a bachelor's degree or higher increased dramatically for males, rising from 14 to 52 percent.
- Since 1970, the earnings advantage of 25- to 34-year-olds with some college or a bachelor's degree or higher (relative to their counterparts who had completed high school) was generally greater for females than for males.

Ratio* of median annual earnings of wage and salary workers aged 25–34 whose highest education level was grades 9–11, some college, and a bachelor's degree or higher to those with a high school diploma, by sex: Selected years 1970–95

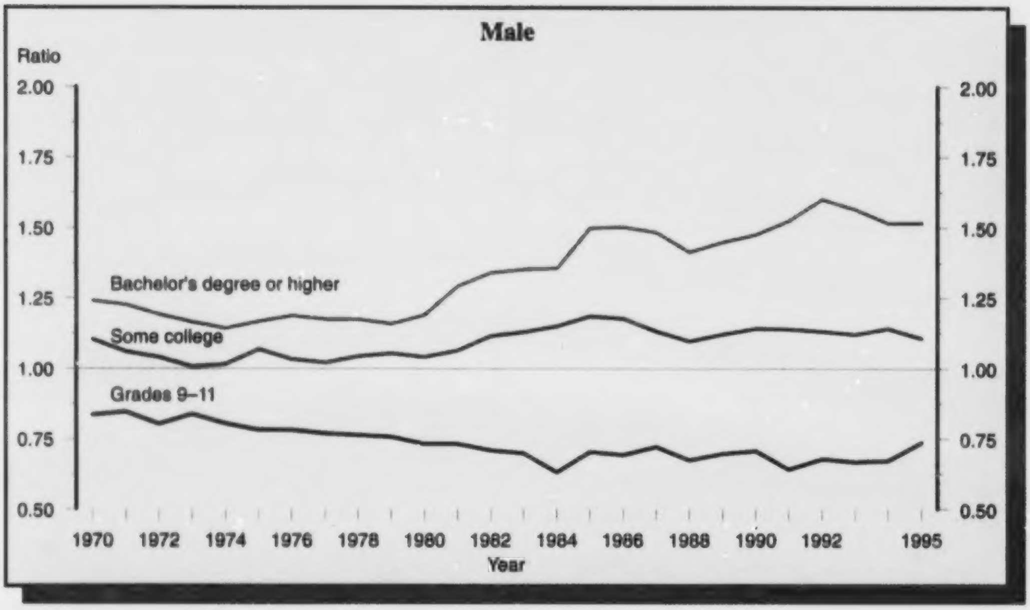
	Grades 9-11		Some college		Bachelor's degree or higher	
Year	Male	Female	Male	Female	Male	Female
1970	0.84	0.69	1.10	1.19	1.24	1.68
1972	0.80	0.70	1.04	1.16	1.19	1.63
1974	0.81	0.62	1.02	1.19	1.14	1.74
1976	0.78	0.61	1.03	1.14	1.19	1.58
1978	0.77	0.54	1.05	1.17	1.18	1.55
1980	0.73	0.65	1.04	1.24	1.19	1.52
1982	0.71	0.66	1.12	1.21	1.34	1.63
1984	0.63	0.56	1.15	1.21	1.36	1.61
1986	0.69	0.65	1.18	1.21	1.50	1.78
1988	0.68	0.56	1.10	1.31	1.42	1.81
1990	0.71	0.58	1.14	1.34	1.48	1.92
1991	0.64	0.64	1.14	1.32	1.53	1.90
1992	0.68	0.76	1.13	1.34	1.60	2.00
1993	0.67	0.59	1.12	1.31	1.57	1.99
1994	0.68	0.58	1.14	1.20	1.52	1.86
1995	0.74	0.62	1.11	1.28	1.52	1.91

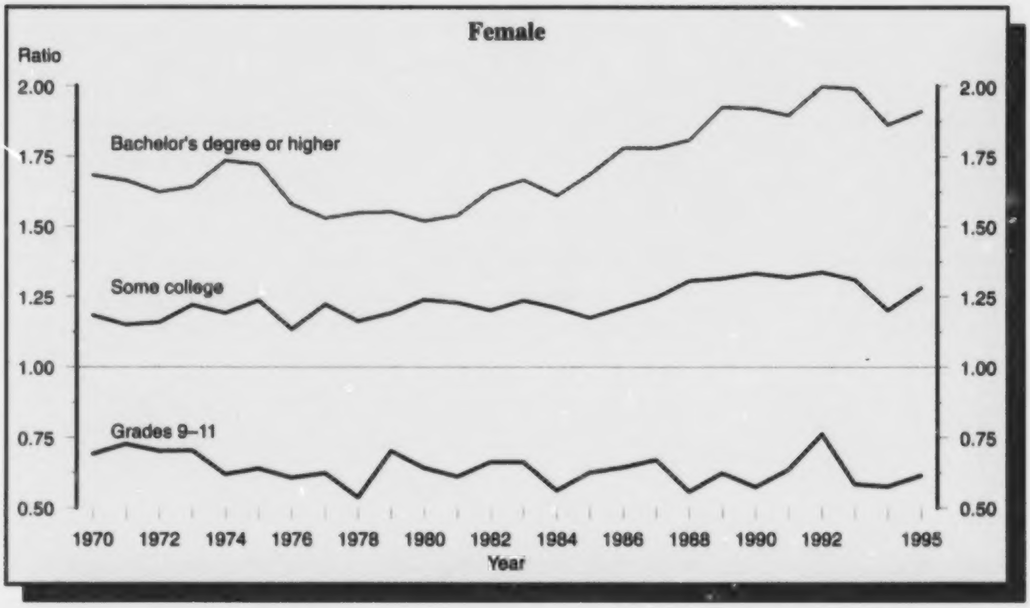
* This ratio is most useful when compared to 1.0. For example, the ratio of 1.52 in 1995 for males whose highest education level was a bachelor's degree or higher means that they earned 52 percent more than males who had a high school diploma. The ratio of 0.74 in 1995 for males whose highest education level was grades 9–11 means that they earned 26 percent less than males who had a high school diploma.

NOTE: In 1992, the Current Population Survey (CPS) changed the questions used to obtain the educational attainment of respondents. See the supplemental note to *Indicator 22* for further discussion.

SOURCE: U.S. Department of Commerce, Bureau of the Census, March Current Population Surveys.

Ratio* of median annual earnings of wage and salary workers aged 25–34 whose highest education level was grades 9–11, some college, or a bachelor's degree or higher to those with a high school diploma: 1970–95





* This ratio is most useful when compared to 1.0. For example, the ratio of 1.52 in 1995 for males whose highest education level was a bachelor's degree or higher means that they earned 52 percent more than males who had a high school diploma. The ratio of 0.74 in 1995 for males whose highest education level was grades 9–11 means that they earned 26 percent less than males who had a high school diploma.

NOTE: In 1992, the Current Population Survey (CPS) changed the questions used to obtain the educational attainment of respondents. See the supplemental note to *Indicator 22* for further discussion.

SOURCE: U.S. Department of Commerce, Bureau of the Census, March Current Population Surveys.

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Starting salaries of college graduates

One of the values that students place on the field of study they choose for their bachelor's degree is the earning potential associated with occupations in that field. Starting salaries offered by employers are related not only to the value of the skills learned by college graduates but also to the supply of qualified individuals. Thus, differences in starting salaries shed light on the changing demands of the labor market and the response of students and the education system to those changes.

- Between 1977 and 1993, college graduates who majored in computer sciences and engineering had much higher starting salaries than did graduates in all other fields of study; while the salary benefit of majoring in such fields was high, it declined between 1980 and 1993.
- Starting salaries among graduates who majored in the humanities or education have fluctuated over time, but in general, they were considerably lower than the starting salaries for all graduates. Salaries in both fields, however, rose relative to those of all graduates between 1984 and 1993.
- Among 1993 graduates, females were much more likely than males to major in education, and males were more likely than females to major in computer sciences and engineering. The most common field of study for both males and females was business, with the starting salary benefits for those who majored in this field increasing between 1986 and 1993.
- Median starting salaries for 1993 male graduates were substantially higher than those for female graduates, both overall and within certain fields of study including business, social and behavioral sciences, and natural sciences.

Percentage difference between median starting salaries for all college graduates and college graduates in major fields of study: Selected years of graduation 1977–93

Major field of study	Year of graduation					
	1977	1980	1984	1986	1990	1993
	Percent above or (below) median for all college graduates					
Humanities	(20.3)	(15.4)	(18.6)	(17.1)	(13.6)	(11.1)
Social and behavioral sciences	(10.6)	(11.4)	(12.6)	(8.8)	(9.4)	(9.0)
Natural sciences	(1.8)	(0.8)	(5.0)	(6.2)	(1.8)	(7.5)
Computer sciences and engineering	46.4	61.0	44.8	34.3	41.0	35.8
Education	(14.1)	(18.6)	(20.1)	(18.6)	(11.7)	(15.3)
Business and management	14.4	13.2	4.8	2.6	4.6	10.4
Other professional or technical	2.8	6.8	(1.3)	(2.9)	2.2	3.3

Annual median starting salaries (in 1996 constant dollars) of 1993 college graduates, by sex and major field of study, and the percentage difference between male and female starting salaries

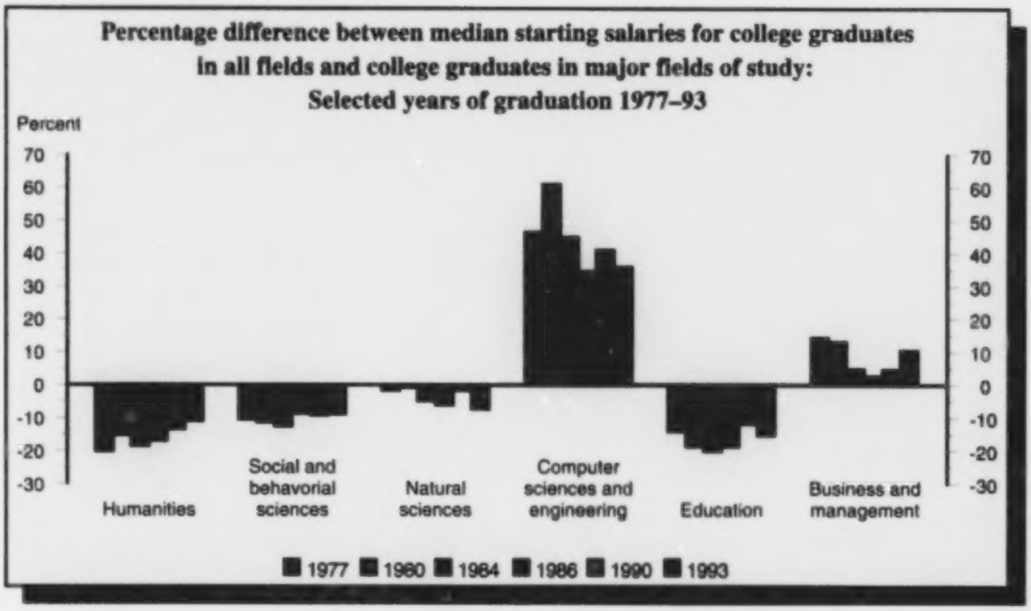
Major field of study	All graduates	Male		Female		
		Percentage in field	Median starting salary	Percentage in field	Median starting salary	Female/male percentage difference
Total	**$23,600**	**100**	**$26,122**	**100**	**$21,990**	***(15.8)**
Humanities	20,974	9	21,793	12	20,614	(5.4)
Social and behavioral sciences	21,478	13	23,335	15	20,576	*(11.8)
Natural sciences	21,832	7	24,226	6	20,508	*(15.3)
Computer sciences and engineering	32,045	16	32,385	3	30,155	(6.9)
Education	19,985	6	21,236	17	19,651	(7.5)
Business and management	26,044	32	27,728	23	23,802	*(14.2)
Other professional or technical	24,384	17	24,363	23	24,399	0.1

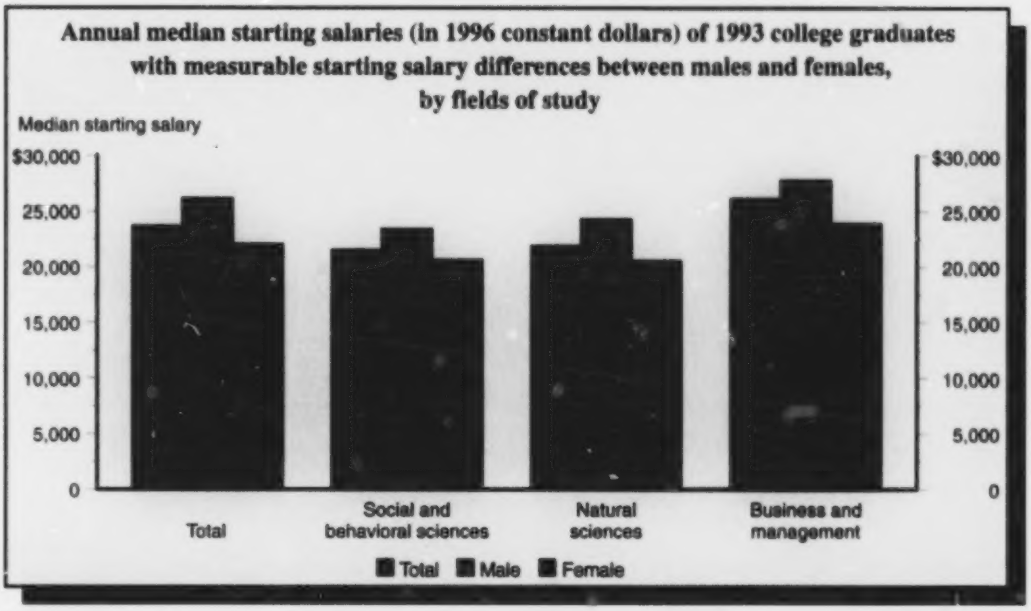
* Male salaries were greater than female salaries ($p < 0.05$).

NOTE: Data presented are for bachelor's degree recipients who were working full time and who were not enrolled in postsecondary education 1 year after graduation. Details may not add to totals due to rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Recent College Graduates Surveys (1977–90) and 1993 Baccalaureate and Beyond Longitudinal Study, First Follow-up (B&B:93/94).

Starting salaries of college graduates


Percentage difference between median starting salaries for college graduates in all fields and college graduates in major fields of study: Selected years of graduation 1977–93


Annual median starting salaries (in 1996 constant dollars) of 1993 college graduates with measurable starting salary differences between males and females, by fields of study

NOTE: Data presented are for bachelor's degree recipients who were working full time and who were not enrolled in postsecondary education 1 year after graduation.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Recent College Graduates Surveys (1977–90) and 1993 Baccalaureate and Beyond Longitudinal Study, First Follow-up (B&B:93/94).

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Community service activities following high school

There is considerable interest in involving a greater number of high school students in community service because having students perform community service is viewed as beneficial for both society and the individual. Data on community service performed by high school seniors and their participation in community service after leaving high school may help school administrators assess their current community service programs.

- In 1994, 43 percent of 1992 high school seniors reported performing community service in the previous year. Those who performed community service during the last 2 years of high school were more likely to report performing community service 2 years later than those who did not (61 compared to 30 percent, respectively).
- In 1994, high school seniors who were required to perform community service during the last 2 years of high school were more likely to perform community service than all 1992 high school seniors (58 compared to 43 percent, respectively).
- Those 1992 high school seniors who had attended some college by 1994 were more likely to have reported performing community service in the previous year than those who had not attended some postsecondary education. Of those 1992 seniors who had attended some postsecondary education, those who performed community service in high school were more likely to have performed community service in the previous year than those who had not performed community service in high school.
- A lower percentage of 1992 high school seniors from public schools reported performing community service 2 years later than did seniors from Catholic schools or other private schools.

Percentage of 1992 high school seniors who in 1994 reported performing community service during the previous year, by community service in high school and selected characteristics

			Reported performing community service in high school[1]		
Selected characteristics	Total	No community service in high school[1]	Total[2]	Strictly voluntary[2]	Required[2]
Total	**43.3**	**29.7**	**60.6**	**63.2**	**57.5**
Control of high school					
Public	42.1	29.1	59.9	62.5	56.4
Catholic	55.9	37.9	64.9	70.0	62.6
Private, other	55.9	33.2	71.6	71.9	64.7
Postsecondary attendance[3]					
Attended	50.3	35.7	64.6	66.9	61.0
Not attended	23.8	18.5	39.0	40.9	38.0

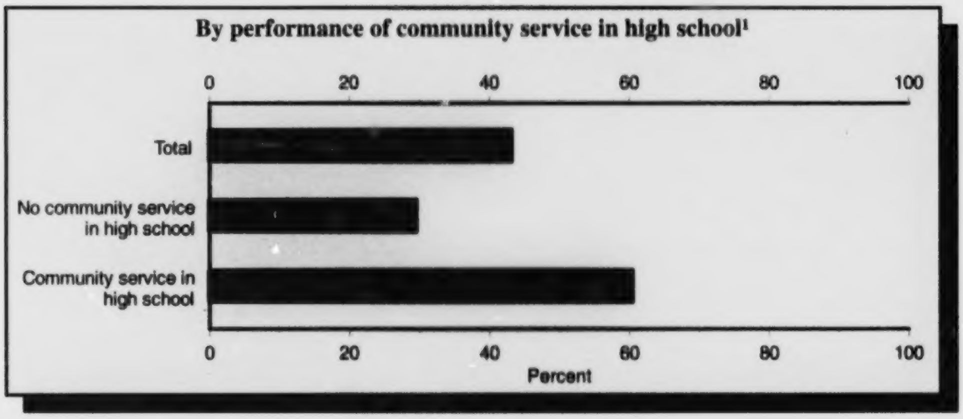
[1] In 1992, high school seniors were asked if they had performed community service during the previous 2 years.

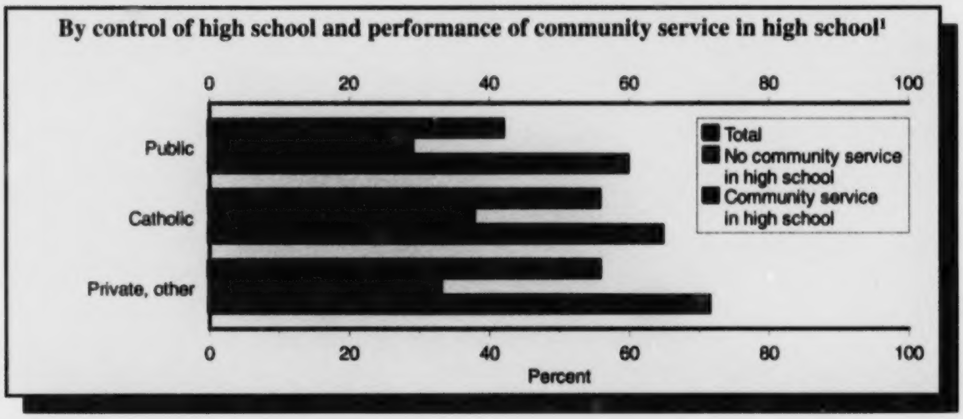
[2] Seniors were asked to give as many responses as were applicable when reporting whether the community service they performed was voluntary or required; therefore, seniors may be counted in both "strictly voluntary" and "required" categories but are only counted once in "total."

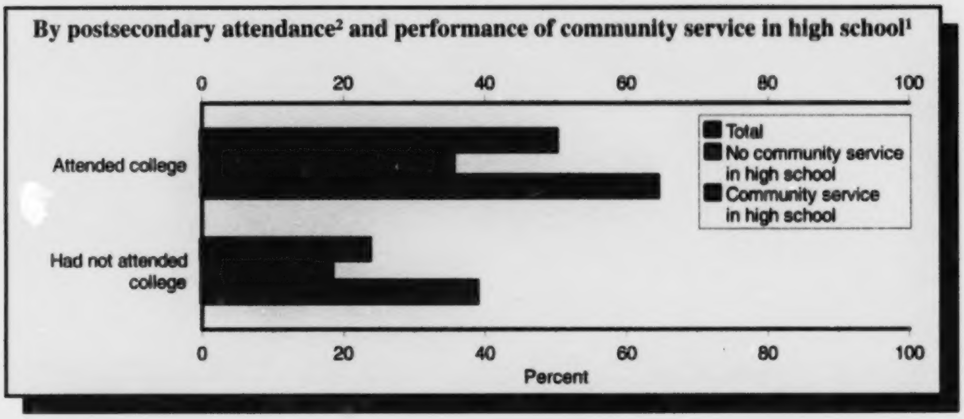
[3] Students were asked if they had attended at least one postsecondary institution (university, 2- or 4-year college, or a vocational, technical, or trade school) since 1992; students may not have been enrolled in 1994, however.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Education Longitudinal Study of 1988, Second Follow-up (1992) and Third Follow-up (1994).

Percentage of 1992 high school seniors who in 1994 reported performing community service during the previous year


By performance of community service in high school[1]


By control of high school and performance of community service in high school[1]


By postsecondary attendance[2] and performance of community service in high school[1]

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[1] In 1992, high school seniors were asked if they had performed community service during the previous 2 years.

[2] Students were asked if they had attended at least one postsecondary institution (university, 2- or 4-year college, or a vocational, technical, or trade school) since 1992; students may not have been enrolled in 1994, however.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Education Longitudinal Study of 1988, Second Follow-up (1992) and Third Follow-up (1994).

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Organization and Management of Educational Institutions

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Organization and Management of Educational Institutions

The effective organization and management of educational institutions is important to any nation's education system: It provides the framework upon which policymakers and educators build school standards and policies. School standards, such as the number of pupils in a classroom, and school practices, such as the role teachers play in school decision making, can have a large impact on how teachers organize instruction—teachers' class size, instructional methods, workload, professional development, and influence over school and classroom policies are all affected by the types of decisions that policymakers make about organization and management.

Average class size

The organization and management of schools influences class size. Although the size of classes in public elementary and secondary classrooms did not change between the 1987–88 and 1993–94 school years, class size did vary across school characteristics. For example, in the 1993–94 school year, public school teachers' average class size was slightly larger than that of their private school counterparts at both the elementary and secondary levels (24 versus 22 students and 24 versus 19 students, respectively). Public school teachers from large schools (those with 750 or more students) had larger average class sizes than public school teachers from small schools (those with less than 150 students) at both the elementary and secondary levels (26 versus 18 students and 25 versus 15 students, respectively).

In school year 1993–94, public school teachers' average class sizes were similar across all levels of school poverty. However, at the secondary level, teachers from public schools with a high minority enrollment (20 percent or more) had slightly larger average class sizes than teachers from schools with a low minority enrollment (less than 20 percent) (*Indicator 39*).

Instructional methods

As a result of the 1980s reform movement, instructional methods have become the focus of many education debates. Recently, many teachers have introduced new instructional methods that use exercises to help build student knowledge rather than to require students to memorize facts. In the 1994–95 school year, 97 percent of public school teachers worked with individual students at least once a week, and 87 percent worked with small groups of students that often. To demonstrate a concept to their classes, 57 percent of public school teachers used a computer, videotape, or other electronic medium.

In the 1994–95 school year, public school teachers were more likely than private school teachers to work with small groups of students; private school teachers were more likely than public school teachers to lecture to their students. Elementary teachers were more likely to work with small groups of students and to demonstrate concepts using a computer, videotape, or other electronic medium than were secondary teachers (*Indicator 37*).

One instructional method that some may argue has been practiced for years, but has just recently been recognized as an "official" teaching technique, is the use of student portfolios. Student portfolios are collections of student-generated works that can indicate the range and extent of a student's performance and growth. In the 1994–95 school year, 72 percent of public elementary teachers used student portfolios. New public elementary teachers (those with less than 4 years of teaching experience) were more likely to use student portfolios than elementary teachers with 4 or more years of teaching experience (79 versus 72 percent).

Advocates of the use of student portfolios argue that this teaching technique can be used to engage students, and to support effective curricula and student teaming. Of those teachers who used student portfolios, private elementary teachers were more likely to use them at least once a week to communicate student progress to parents and to determine student grades than were public elementary teachers (*Indicator 38*).

Homework is an important tool that teachers use to help students review and practice what they have learned. In the 1994–95 school year, 49 percent of public elementary teachers reported that their students spent more than 1 hour on homework during an average week, while 58 percent of private elementary teachers reported that their students did so. Six percent of public and 2 percent of private elementary teachers reported that their students spent no time on homework during an average week.

While there is much debate on how effective homework assignments are, some argue that the most effective homework assignments are those that are meaningful to the student, those that the student completes successfully, and those that the teachers read, comment on, and return to the student. Forty-eight percent of public elementary teachers reported that they often used written homework to record whether students had completed their assignments. In the 1994–95 school year, 4 out of 10 public elementary teachers often used written homework assignments to determine student grades (*Indicator 36*).

School decision making

Teachers have differing perceptions of the amount of control they have over school policies and classroom decisions. In the 1993–94 school year, a higher percentage of teachers perceived having a good deal of control over their classroom decisions than perceived teachers having a good deal of influence over their school's policies (ranging from 57 to 88 percent and 31 to 38 percent, respectively). Private school teachers were more likely than public school teachers to perceive having influence over their school's policies and control over most of their classroom decisions.

With regard to specific school and classroom policies, one-third of public school teachers perceived having a good deal of influence over setting school discipline policies and establishing curriculum. More than 85 percent of public school teachers perceived having a good deal of influence over teaching techniques, evaluating and grading students, and determining the amount of homework to be assigned (*Indicator 41*).

Professional development

While teachers' initial education and training are essential, ongoing professional development throughout their careers also contributes significantly to their teaching qualifications. In the 1993–94 school year, a majority of public school teachers received in-service education or professional development on topics such as the use of educational technology, methods of teaching, student assessment, and cooperative learning. Teachers received support for professional development in the form of time away from teaching, travel expenses, tuition and fees, and professional growth credits. However, 22 percent of public school teachers received none of these types of support for professional development (*Indicator 40*).

Teaching workload

The management and organization of schools and postsecondary institutions affect teachers' salaries, instructional time, and other professional duties, and spark interest in how teachers are spending their time. In the 1993–94 school year, at the elementary/secondary level, full-time public school teachers reported working 45 hours per week, even though they were required to be at school 33 hours a week. Full-time public school teachers reported spending 12 extra hours before and after school and on weekends. Of these extra hours, one-fourth were spent in activities involving students. Teachers with less experience (those with less than 4 years of teaching experience) worked more total hours than did more experienced teachers (those with 4 or more years of teaching experience) (*Indicator 42*).

At the postsecondary level, faculty have many professional duties and responsibilities that elementary and secondary teachers do not have. Along with spending time on instruction, postsecondary faculty must spend time on activities such as research, freelance work, administrative tasks, and professional development. In 1992, faculty spent 54 percent of their work hours teaching, 18 percent conducting research, and 13 percent performing administrative tasks. Between 1987 and 1992, the percentage of time that full-time postsecondary faculty spent teaching decreased, while the percentage of time they spent on service and other duties increased (*Indicator 43*).

Homework assigned by elementary teachers

Homework is an important tool that teachers use to help students review and practice what they have learned, to teach children to work independently, and to encourage children to develop good habits and attitudes, such as self-discipline and responsibility. Some argue that the most effective homework assignments are those that are meaningful, those that the student completes successfully, and those that the teachers read, comment on, and return to the student.

- In 1994–95, 49 percent of public school elementary teachers reported that their students spent more than one hour on homework during an average week, compared to 58 percent of private school elementary teachers. Only 6 percent of public and 2 percent of private school elementary teachers reported that their students spent no time on homework during an average week.

- Forty-eight percent of public school elementary teachers reported that they often used written homework to record only whether students had completed their assignment.

- In 1994–95, 4 out of 10 public elementary school teachers often used written homework assignments as a basis for determining student grades. Private elementary teachers were more likely to collect, correct, and return written homework assignments to students and to use homework assignments for grading students than were public elementary teachers.

- In 1994–95, public and private elementary teachers were more likely to give their students homework assignments that involved reading textbooks and completing routine exercises at least once a week than they were to assign students written or oral reports and problems for which there was no obvious method of solution (see supplemental table 36-1).

Average amount of time elementary[1] teachers reported that their students spent on homework during an average week and teachers' use of homework, by control of school and years of teaching experience: School year 1994–95

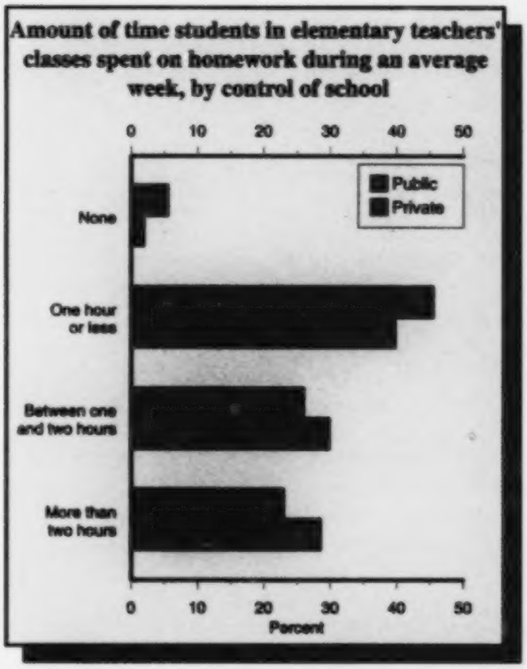
	Public			Private		
		Years of teaching experience			Years of teaching experience	
Time spent on homework and teachers' use of homework	Total	Less than 4 years	4 years or more	Total	Less than 4 years	4 years or more
Average time spent on homework during an average week						
None	5.5	1.7	6.1	1.9	4.4	1.4
One hour or less	45.5	42.9	45.9	39.7	32.2	41.2
Between one and two hours	26.0	37.1	24.5	29.8	31.0	29.6
More than two hours	23.0	18.3	23.6	28.5	32.4	27.8
Percentage of teachers who often[2] used written homework in the following ways:						
Record only whether assignments were completed	47.7	48.9	47.5	54.4	53.4	54.6
Collect, correct, and keep assignments	41.2	46.7	40.5	52.6	39.5	55.1
Keep items in a student portfolio	35.1	44.3	33.8	37.0	26.6	39.1
Collect, correct, and return assignments to students	72.3	78.3	71.5	81.8	81.4	81.8
Use assignments as a basis for grading students	41.4	41.9	41.3	51.3	40.2	53.5

[1] Includes elementary teachers whose main assignment was teaching "general elementary" and who taught in both the 1993–94 and 1994–95 school years; therefore, new teachers were not included in this analysis. See the supplemental note to this indicator for further discussion.

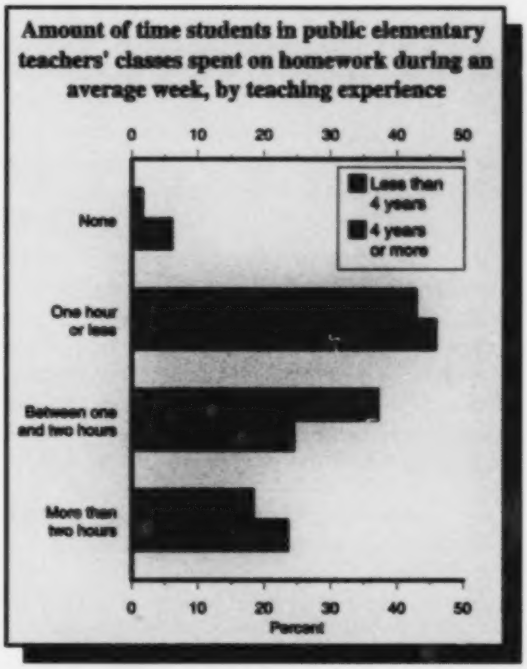
[2] Includes those teachers who responded "always" and "often."

SOURCE: U.S. Department of Education, National Center for Education Statistics, Teacher Follow-up Survey, 1994–95.

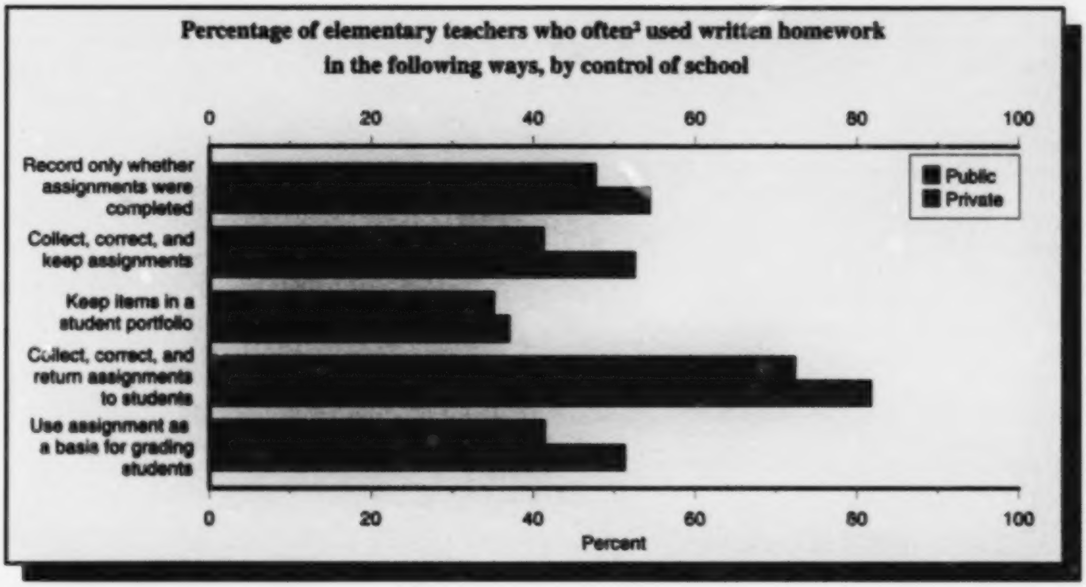
Homework assigned by elementary[1] teachers: School year 1994–95



Amount of time students in elementary teachers' classes spent on homework during an average week, by control of school



Amount of time students in public elementary teachers' classes spent on homework during an average week, by teaching experience



Percentage of elementary teachers who often[2] used written homework in the following ways, by control of school

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[1] Includes elementary teachers whose main assignment was teaching "general elementary" and who taught in both the 1993–94 and 1994–95 school years; therefore, new teachers were not included in this analysis. See the supplemental note to this indicator for further discussion.

[2] Includes those teachers who responded "always" and "often."

SOURCE: U.S. Department of Education, National Center for Education Statistics, Teacher Follow-up Survey, 1994-95.

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Teachers' use of various instructional methods

Determining which teaching methods are most effective for educating students has historically been a topic of debate in the education community. As a result of the education reform movement, many teachers are introducing new teaching methods, such as using exercises to build student knowledge rather than those requiring students to memorize facts. A snapshot of the various instructional methods currently being used in the classroom can help us better understand how teachers are communicating with students, as well as serve as a baseline for monitoring the acceptance of these methods over time.

- In the 1994–95 school year, 97 percent of public school teachers worked with individual students at least once a week; 87 percent worked with small groups of students; and 62 percent lectured to their students. To demonstrate a concept to their class, 87 percent of public school teachers used the board or overhead projector, while 57 percent used a computer, videotape, or other electronic medium.

- Ninety percent of public school teachers asked students to respond orally to questions testing recall and 85 percent asked students to respond orally to open-ended questions at least once a week. Seventy-two percent of public school teachers had students use textbooks, while 29 percent required students to use school computers for writing.

- Public school teachers were more likely than private school teachers to work with small groups of students and to demonstrate concepts using a computer, videotape, or other electronic medium, while private school teachers were more likely than public school teachers to lecture to their students.

- Elementary teachers were more likely to work with small groups of students and to demonstrate concepts using a computer, videotape, or other electronic medium than were secondary teachers.

Percentage of teachers[1] who used selected teaching methods, by control and level of school: School year 1994–95

	Public			Private		
Selected teaching methods	Total[2]	Elementary[2]	Secondary	Total[2]	Elementary[2]	Secondary
Percentage of teachers who reported using the following instructional strategies at least once a week[3]						
Provide instruction to the class as a whole	97.9	99.2	98.0	97.2	98.7	98.1
Demonstrate a concept using the board or overhead projector	87.1	96.9	86.7	87.1	96.2	88.6
Work with individual students	96.6	99.6	94.9	94.4	99.1	91.8
Demonstrate a concept using a computer, videotape, or other electronic medium	56.5	74.5	46.9	45.3	56.9	38.6
Lecture	61.6	68.7	66.9	69.0	78.4	73.3
Work with small groups of students	87.0	95.9	79.7	81.0	90.5	72.1
Percentage of teachers who required students to perform the following in-class activities at least once a week[3]						
Respond orally to questions testing recall	90.3	96.0	86.8	88.8	94.5	89.7
Complete a worksheet or workbook emphasizing routine practice	67.1	86.3	62.2	70.4	93.0	57.9
Use a textbook	71.7	88.3	75.7	79.2	92.3	83.6
Engage in discussion primarily with the teacher	85.2	94.6	80.7	86.3	92.1	86.7
Use school computers for writing	29.3	49.8	17.8	27.1	39.9	21.5
Respond orally to open-ended questions	85.4	93.6	80.1	84.2	93.5	81.8

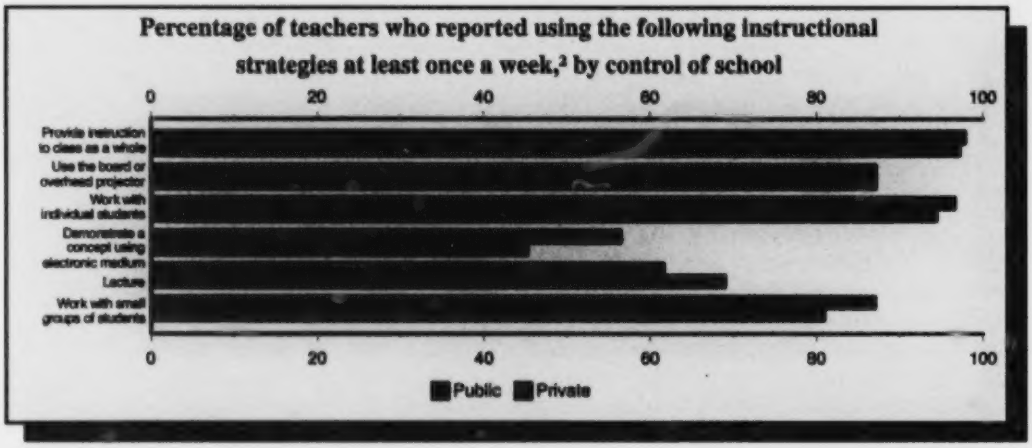
[1] Includes only those teachers who taught in both the 1993-94 and 1994-95 school years; therefore, new teachers are not included in this analysis.

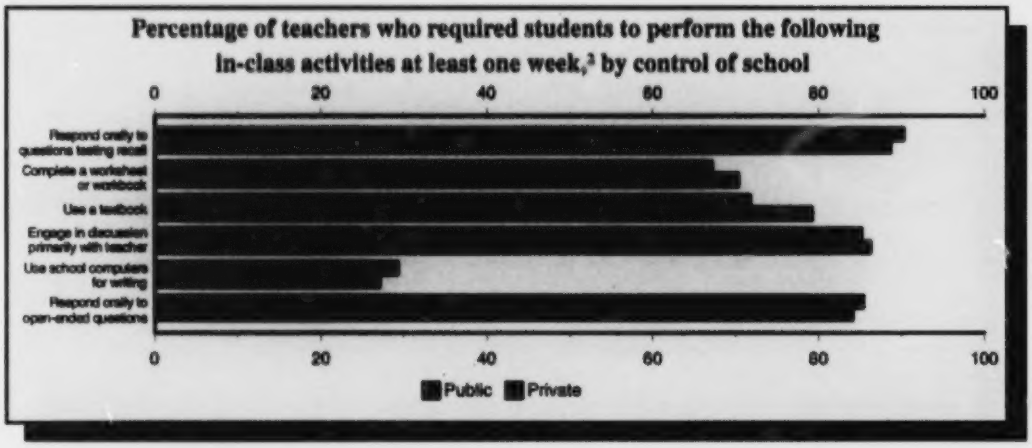
[2] "Total" includes all elementary and secondary teachers, while "elementary" includes only those whose main assignment was teaching "general elementary." See the supplemental note to *Indicator 36* for further discussion.

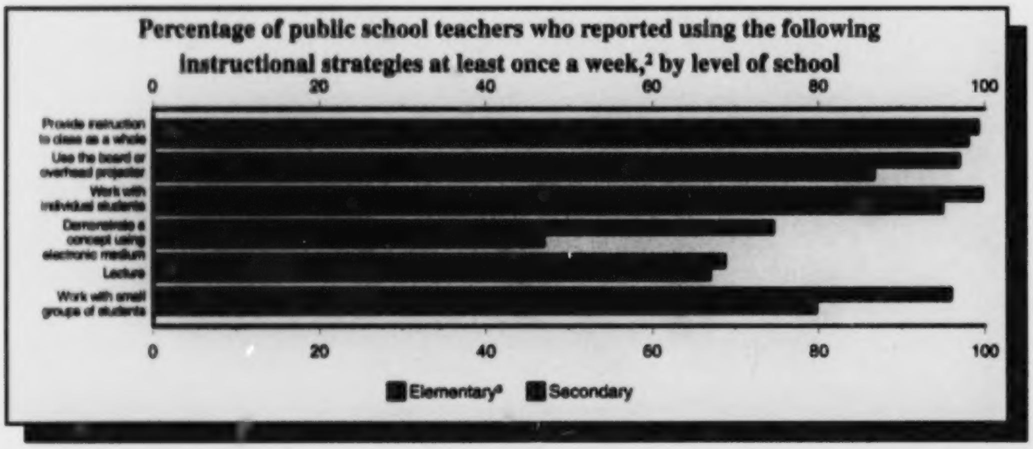
[3] Includes those teachers who responded "almost every day" and "once or twice a week."

SOURCE: U.S. Department of Education, National Center for Education Statistics, Teacher Follow-up Survey, 1994-95.

Percentage of teachers[1] using selected teaching methods: School year 1994–95


Percentage of teachers who reported using the following instructional strategies at least once a week,[2] by control of school


Percentage of teachers who required students to perform the following in-class activities at least one week,[2] by control of school


Percentage of public school teachers who reported using the following instructional strategies at least once a week,[2] by level of school

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[1] Includes only those teachers who taught in both the 1993–94 and 1994–95 school years; therefore, new teachers are not included in this analysis.

[2] Includes those teachers who responded "almost every day" and "once or twice a week."

[3] "Elementary" includes only those whose main assignment was teaching "general elementary." See the supplemental note to *Indicator 36* for further discussion.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Teacher Follow-up Survey, 1994–95.

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Use of student portfolios by elementary teachers

Portfolios are a collection of student-generated works that can indicate the range and extent of a student's performance and growth. Advocates of portfolios argue that they can be fully integrated into the curriculum, that they are a good device for engaging students and supporting effective curricula, instruction, and student teaming, and can be used to compare student achievement across classrooms or schools.

- In the 1994–95 school year, 72 percent of public elementary teachers used student portfolios compared to 63 percent of private elementary teachers. Of those elementary teachers who used student portfolios, about 80 percent reported using them for more than one subject.
- Less experienced public elementary teachers (those with less than 4 years of teaching experience) were more likely to use student portfolios than elementary teachers with 4 or more years of teaching experience (79 versus 72 percent, respectively).
- Of those who used student portfolios, private elementary teachers were more likely to use them at least once a week to communicate student progress to parents and to determine student grades than were public elementary teachers.
- Of those who used student portfolios, public elementary teachers with 4 or more years of teaching experience were more likely to use student portfolios at least once a week to diagnose student learning problems and to make decisions about student placement than were less experienced public elementary teachers (those with less than 4 years of teaching experience).

Percentage of elementary teachers[1] who used student portfolios and how portfolios were used, by control of school and years of teaching experience: School year 1994–95

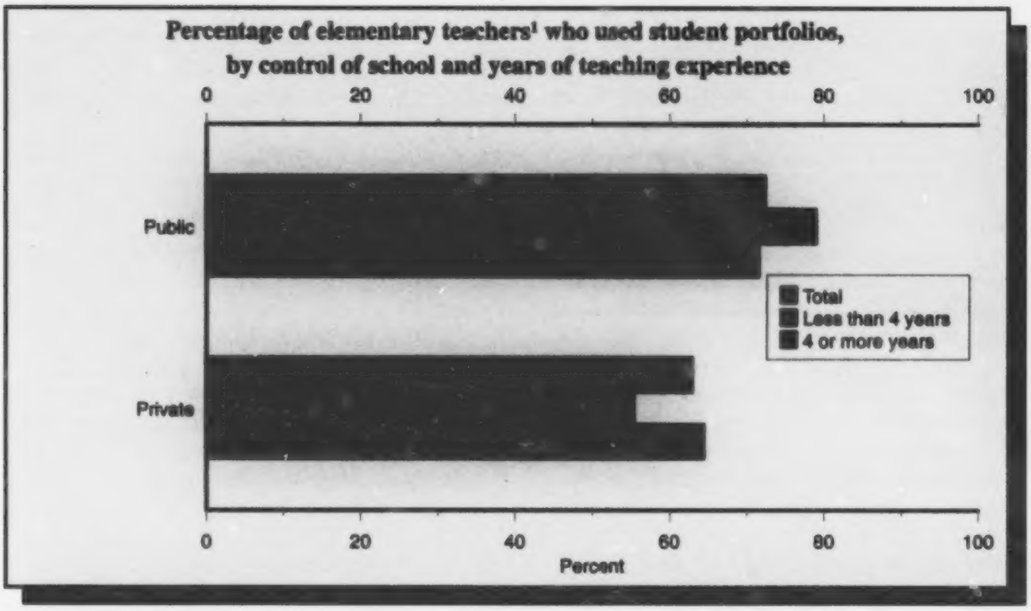
	Public			Private		
Portfolio uses	Total	Less than 4 years	4 or more years	Total	Less than 4 years	4 or more years
Total teachers who used student portfolios	**72.4**	**79.0**	**71.6**	**63.0**	**55.4**	**64.5**
Of those teachers who used student portfolios, those who used them for more than one subject	79.0	89.6	77.4	80.0	83.7	79.4
Teachers using student portfolios who reported using them at least once a week[2] in the following ways						
Training students to reflect upon and/or assess each piece of work	37.2	35.0	37.6	38.0	35.8	38.3
Training students to reflect upon and/or assess their overall progress	30.9	25.3	31.8	33.0	29.2	33.6
Communicating student progress to parents	17.5	18.1	17.5	25.7	21.6	26.3
Determining student grades or other formal progress reports	21.7	17.9	22.2	29.6	25.8	30.3
Planning for future lessons	48.0	41.7	48.9	49.4	44.5	50.2
Diagnosing student learning problems	52.6	39.4	54.5	47.8	47.8	47.8
Making informed decisions about student placement	24.4	15.7	25.7	18.5	17.3	18.7
Providing information for program/school accountability	11.8	9.0	12.2	17.3	7.1	19.0

[1] Includes only those elementary teachers whose main assignment was teaching "general elementary" and who taught in both the 1993–94 and 1994–95 school years; therefore, new teachers were not included in this analysis. See the supplemental note to *indicator 36* for further discussion.

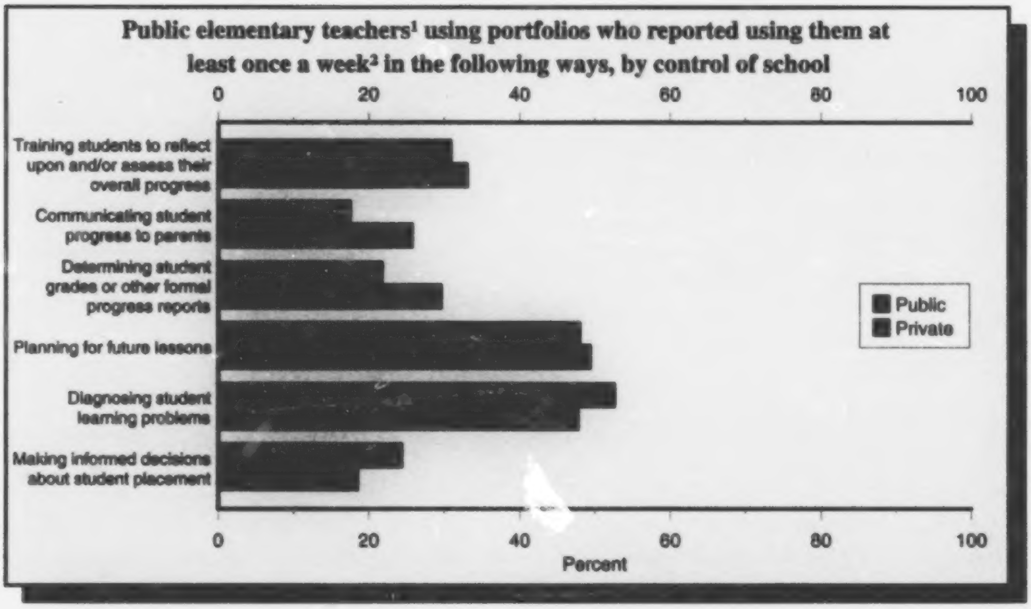
[2] Includes those teachers who responded "almost every day" and "once or twice a week."

SOURCE: U.S. Department of Education, National Center for Education Statistics, Teacher Follow-up Survey, 1994–95.

Elementary teachers' use of student portfolios: School year 1994–95



Percentage of elementary teachers[1] who used student portfolios, by control of school and years of teaching experience



Public elementary teachers[1] using portfolios who reported using them at least once a week[2] in the following ways, by control of school

[1] Includes only those elementary teachers whose main assignment was teaching "general elementary" and who taught in both the 1993–94 and 1994–95 school years; therefore, new teachers were not included in this analysis. See the supplemental note to *Indicator 36* for further discussion.

[2] Includes those teachers who responded "almost every day" and "once or twice a week."

SOURCE: U.S. Department of Education, National Center for Education Statistics, Teacher Follow-up Survey, 1994–95.

Class size

Class size is a measure of the average number of students a teacher sees during a class period or school day. Smaller class sizes are valued because they may allow students to receive more individual attention from their teachers and may reduce teachers' burden of managing large numbers of students and their work. However, smaller class sizes are more expensive. Also, large classes may not necessarily hinder instruction, depending on teaching style, student behavior, and frequency of outside class meetings.

- In the 1993–94 school year, public school teachers' average class size was larger than that of their private school counterparts at both the elementary and secondary levels (24 versus 22 students and 24 versus 19 students, respectively).
- The average class size of public elementary and secondary teachers was similar in the 1987–88 and 1993–94 school years.
- The average class size of public school teachers was similar across all levels of school poverty. However, at the secondary level, teachers from public schools with a high minority enrollment (20 percent or more) had slightly larger average class sizes than public teachers from schools with a low minority enrollment (less than 20 percent) (24 versus 23 students, respectively).
- Public school teachers from large schools (750 or more students) had larger average class sizes than those teachers from small schools (less than 150 students) at both the elementary and secondary levels (26 versus 18 students and 25 versus 15 students, respectively).

Teachers' average class size, by control of school and teacher level: School years 1987–88, 1990–91, and 1993–94

Control of school and teacher level	1987–88	1990–91	1993–94
Public			
Elementary	24.5	24.1	24.1
Secondary	23.9	22.6	23.6
Private			
Elementary	21.3	20.5	21.7
Secondary	20.4	19.1	19.1

Teachers' average class size, by control of school, teacher level, and selected school characteristics: School year 1993–94

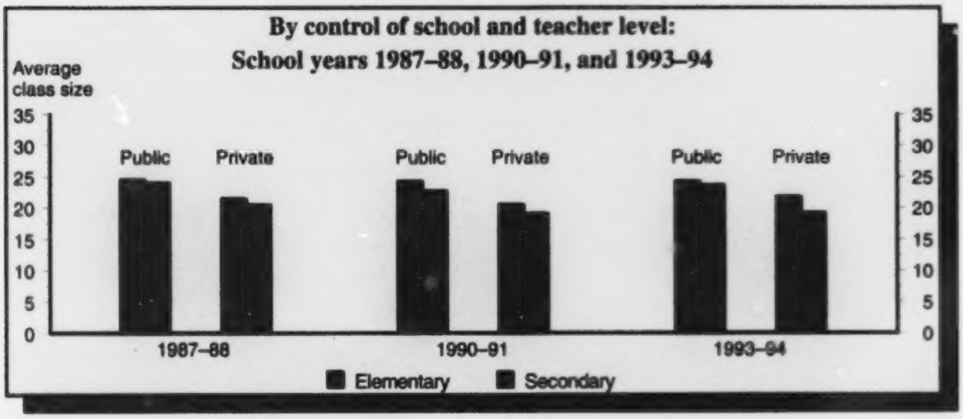
	Public		Private	
Selected school characteristics	Elementary	Secondary	Elementary	Secondary
Total	**24.1**	**23.6**	**21.7**	**19.1**
Urbanicity				
Central city	24.7	25.0	22.2	19.9
Urban fringe/large town	25.1	24.5	21.9	19.8
Rural/small town	22.9	22.1	20.4	15.6
Percentage of minority students enrolled				
Less than 20 percent	23.6	22.8	20.9	18.8
20 percent or more	24.5	24.3	22.6	19.9
Percentage of students eligible for free or reduced-price lunch				
0–5	24.2	23.7	—	—
6–20	24.5	23.5	—	—
21–40	24.1	23.5	—	—
41 or more	23.8	23.6	—	—
School size				
Less than 150	18.1	15.2	17.0	10.7
150–499	23.0	20.7	23.1	18.7
500–749	24.9	23.4	25.1	21.1
750 or more	26.1	24.9	23.3	22.6

— Not applicable.

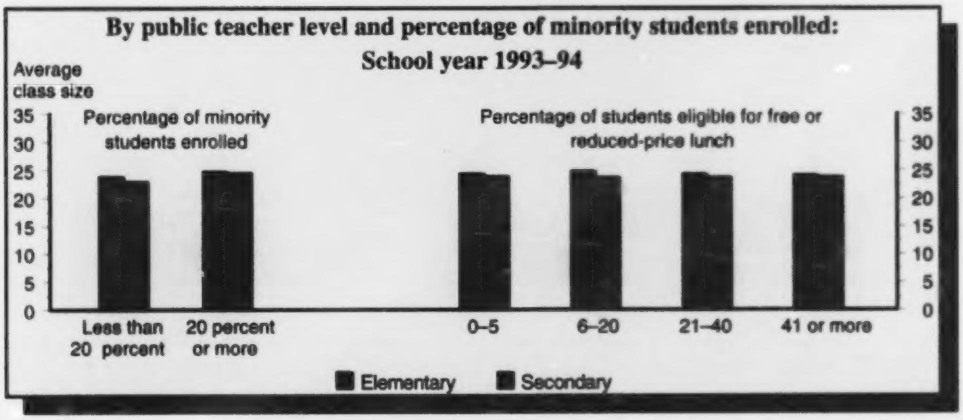
NOTE: In this analysis, "elementary" teachers are those who taught self-contained classes at the elementary level, and "secondary" teachers are those who taught departmentalized classes (e.g., science, art, social science, or other course subjects) at the secondary level. Excludes special education teachers. Teachers were classified as elementary or secondary on the basis of the grades they taught, rather than on the level of the school in which they taught.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey, 1987–88, 1990–91, and 1993–94.

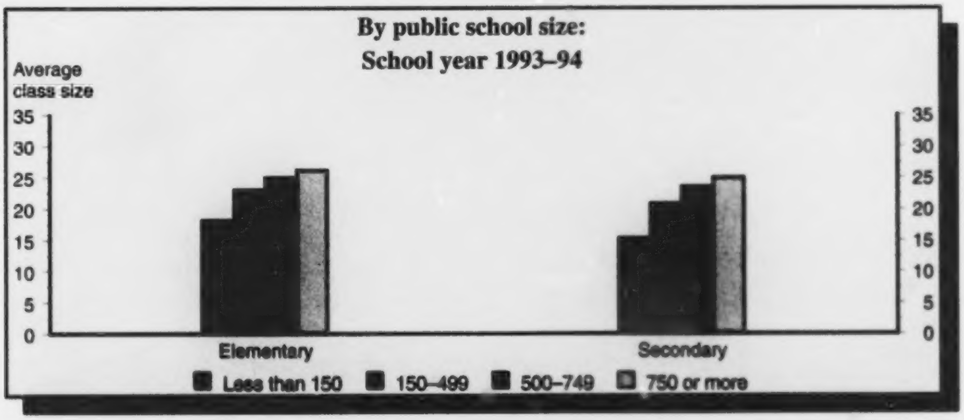
Teachers' average class size



By control of school and teacher level:
School years 1987–88, 1990–91, and 1993–94



By public teacher level and percentage of minority students enrolled:
School year 1993–94



By public school size:
School year 1993–94

NOTE: In this analysis, "elementary" teachers are those who taught self-contained classes at the elementary level, and "secondary" teachers are those who taught departmentalized classes (e.g., science, art, social science, or other course subjects) at the secondary level. Excludes special education teachers. Teachers were classified as elementary or secondary on the basis of the grades they taught rather than on the level of the school in which they taught.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey, 1987–88, 1990–91, and 1993–94.

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Teachers' participation in professional development

Professional development for current teachers includes both seminars offered by schools or school districts and courses affiliated with institutions of higher education. The extent to which teachers pursue professional development while continuing to teach may indicate either the commitment of the teaching profession to improve teaching practice or salary structures that reward participation in professional development.

- In school year 1993–94, 50 percent or more of full-time public school teachers participated in professional development on topics including uses of educational technology for instruction, methods of teaching in their subject field, student assessment, and cooperative learning in the classroom.
- Full-time public school teachers were more likely to participate in activities on all types of professional development topics than were full-time private school teachers. Full-time public elementary school teachers were more likely to participate in activities on four of the five types of professional development topics than were their secondary school counterparts.
- In school year 1993–94, 48 percent of full-time public school teachers received released time from teaching, and 41 percent received scheduled time for professional development. Twenty-two percent received none of the types of support listed.
- Full-time public school teachers were more likely to receive professional growth credits and released and scheduled time from teaching than were their private school counterparts. However, private school teachers were more likely to receive tuition and/or fees than were public school teachers.
- In recent years, teacher induction programs appeared to be more prevalent. For example, public elementary and secondary teachers with less than 4 years of teaching experience were more likely to have participated in a formal teacher induction program in their first year of teaching than were teachers with 4 or more years of experience (see supplemental table 40-1).

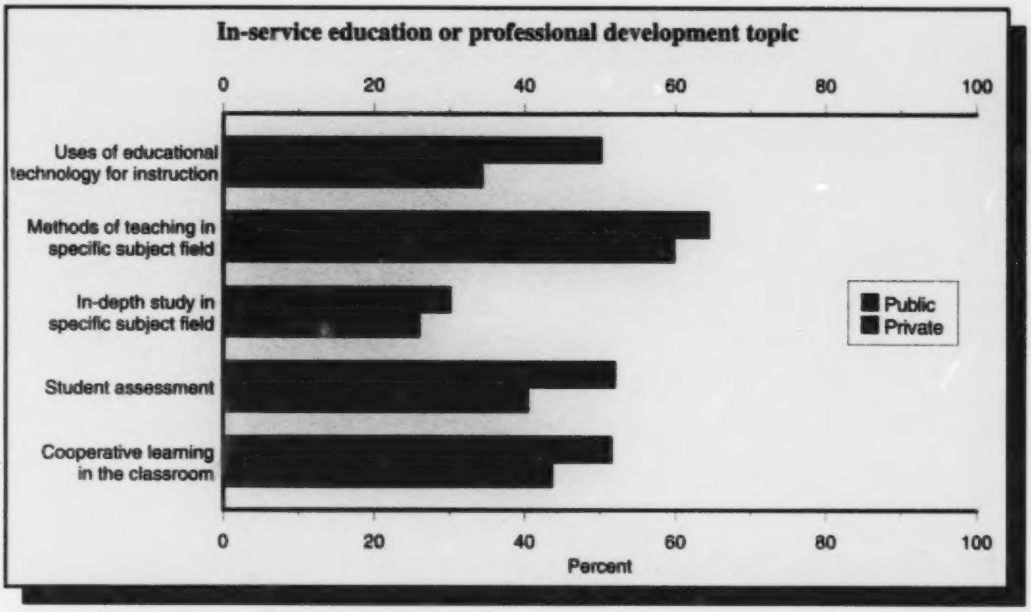
Percentage of full-time teachers who participated in professional development during the 1993–94 school year, by topic, type of support received, and control and level of school

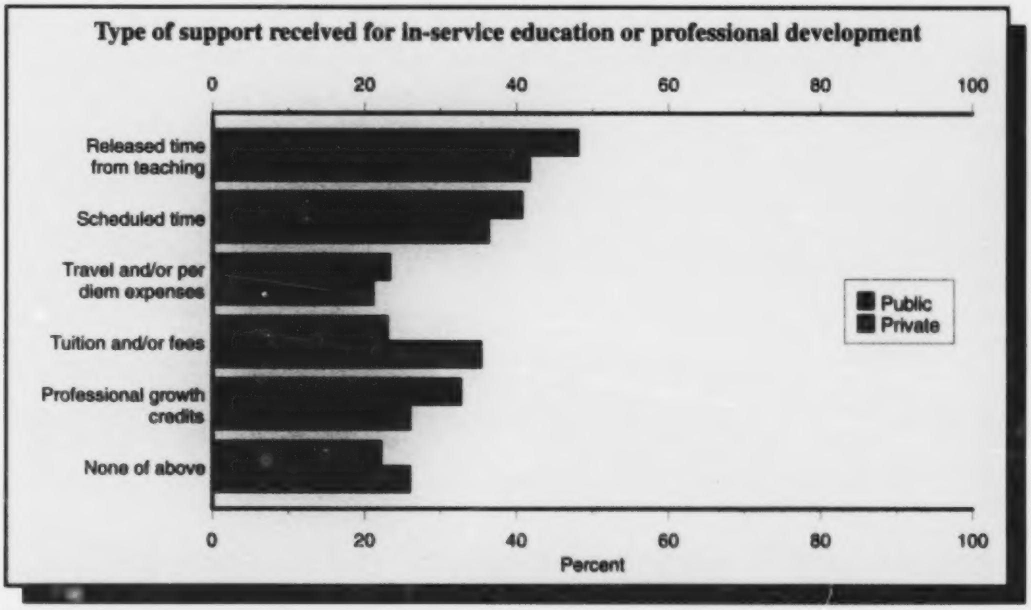
Professional development topic and type of support received	Public			Private		
	Total	Elementary	Secondary	Total	Elementary	Secondary
In-service education or professional development topic						
Uses of educational technology for instruction	50.1	49.7	50.7	34.3	32.8	38.5
Methods of teaching in specific subject field	64.4	69.7	55.0	59.8	63.1	50.8
In-depth study in specific field	30.1	31.6	27.5	25.9	24.7	29.2
Student assessment	52.0	55.4	45.8	40.4	42.5	34.7
Cooperative learning in the classroom	51.5	52.7	49.2	43.6	45.5	38.5
Type of support received during the 1993-94 school year for in-service education or professional development						
Released time from teaching	48.1	50.7	43.5	41.7	42.6	39.2
Scheduled time	40.7	43.6	35.4	36.3	37.1	34.3
Travel and/or per diem expenses	23.3	21.2	26.9	21.1	19.8	24.6
Tuition and/or fees	23.0	24.3	20.7	35.3	36.0	33.3
Professional growth credits	32.7	34.8	28.9	26.0	27.7	21.3
None of the above	22.2	19.4	27.1	26.0	25.1	28.4

NOTE: Excludes a small number of teachers whose schools did not respond to the questionnaire.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey, 1993–94 (Teacher Questionnaire).

Percentage of full-time teachers who participated in professional development during the 1993–94 school year, by control of school





SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey, 1993–94 (Teacher Questionnaire).

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Teachers' participation in school decision making

Two aspects that can affect school climate and responsiveness are the extent to which teachers participate in making decisions about important school policies and issues and the autonomy teachers have in the classroom. Data on teachers' opinions about their influence over school policies and the control that they have over their classrooms can contribute to current debates on teacher professionalism.

- Teachers perceived that they had more control over classroom policies than they had over school policies. For example, in the 1993–94 school year, a higher percentage of teachers perceived that they had a good deal* of control over their classroom decisions than they perceived teachers having a good deal of influence over their school's policies (ranging from 57 to 88 percent and 31 to 38 percent, respectively).

- Private school teachers were more likely than public school teachers to perceive having influence over their school policies and control over most of their classroom decisions in the 1993–94 school year.

- Public and private secondary teachers were more likely than elementary teachers to perceive having a good deal* of control over classroom decisions, except for the decision to discipline students over which elementary teachers perceived having more control.

- Private school principals were more likely than public school principals to attribute a good deal of influence to teachers on setting discipline policy and establishing curriculum.

Teachers' and principals' perceptions of the amount of influence or control teachers had over selected school and classroom decisions in their schools, by control and level of school: School year 1993–94

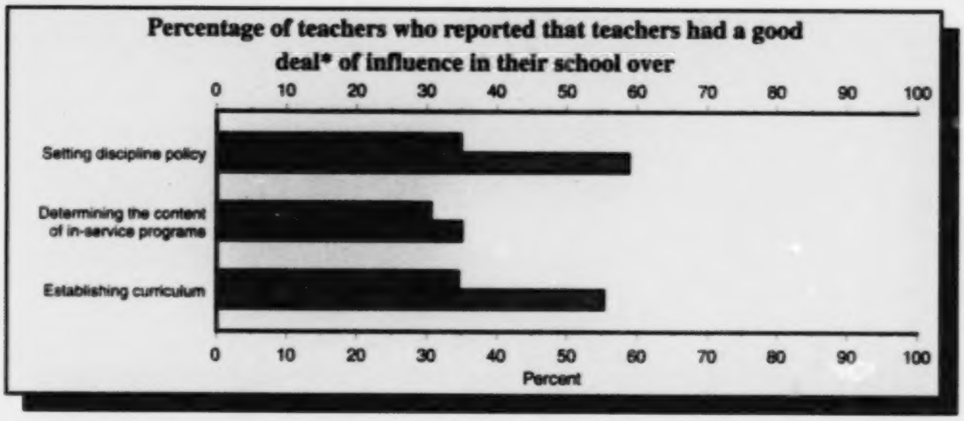
School and classroom decisions	All schools	Public			Private		
		Total	Elementary	Secondary	Total	Elementary	Secondary
Percentage of teachers who reported that teachers had a good deal* of influence in their school over							
Setting discipline policy	37.9	34.9	41.8	27.5	58.9	64.6	50.9
Determining the content of in-service programs	31.2	30.6	32.6	28.5	35.1	36.1	33.7
Establishing curriculum	37.2	34.6	32.2	37.2	55.4	54.5	56.6
Percentage of teachers who reported a good deal* of control in their classroom over							
Selecting textbooks and other instructional materials	57.0	55.5	49.1	62.4	67.9	62.4	75.7
Selecting content, topics, and skills to be taught	62.3	60.5	54.2	67.4	74.6	69.3	82.3
Selecting teaching techniques	87.1	86.4	83.8	89.2	91.6	90.0	93.9
Evaluating and grading students	87.5	86.9	84.0	90.0	91.6	90.3	93.5
Disciplining students	70.9	69.0	73.4	64.2	84.3	86.3	81.5
Determining the amount of homework to be assigned	86.8	86.7	83.7	89.9	87.4	85.7	89.8
Percentage of principals who reported that teachers had a good deal* of influence over							
Setting discipline policy	75.7	74.7	75.5	72.5	80.2	82.2	68.9
Determining the content of in-service programs	70.0	70.7	70.3	71.6	67.1	66.6	70.1
Establishing curriculum	63.7	61.4	59.7	66.2	74.4	74.0	76.9

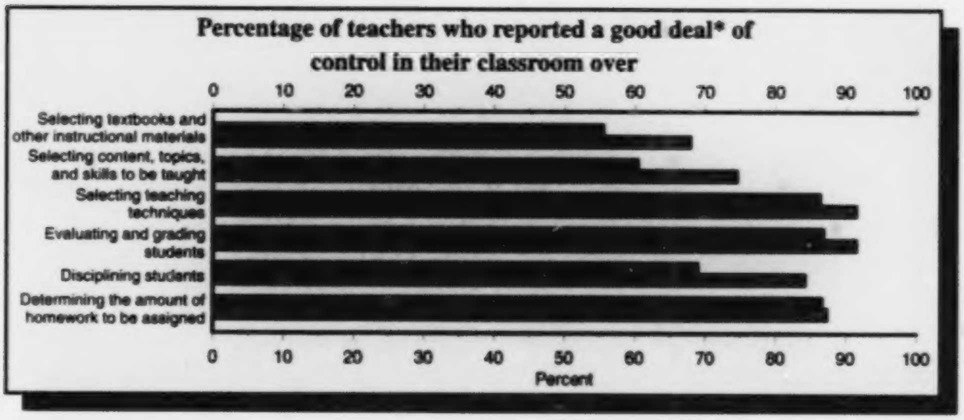
* Respondents were asked about influence and control on a scale of 0–5, with 0 meaning "no influence" or "no control," and 5 meaning a "great deal of influence" or "complete control." Responses 4 and 5 were combined in this analysis.

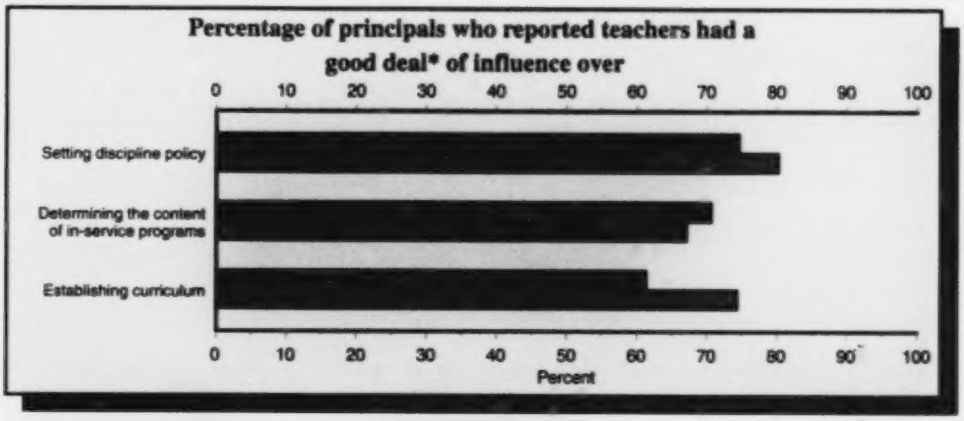
NOTE: Excludes a small number of teachers and principals whose schools did not respond to the questionnaire.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey, 1993-94 (Teacher and Administrator Questionnaires).

Teachers' and principals' perceptions of the amount of influence or control teachers had over school and classroom decisions, by control of school: School year 1993–94


Percentage of teachers who reported that teachers had a good deal* of influence in their school over


Percentage of teachers who reported a good deal* of control in their classroom over


Percentage of principals who reported teachers had a good deal* of influence over

■ Public ■ Private

* Respondents were asked about influence and control on a scale of 0–5, with 0 meaning "no influence" or "no control," and 5 meaning "a great deal of influence" or "complete control." Responses 4 and 5 were combined in this analysis.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey, 1993–94 (Teacher and Administrator Questionnaires).

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Teaching workload of full-time teachers

Ongoing debates about teachers' salaries, professional status, and instructional time spark interest in the amount of time teachers spend working, the number of classes they teach per day, and the number of students in each class. A teacher's work day does not end when classes are over. They are likely to spend additional time outside of school hours on work-related activities.

- While full-time public school teachers were required to be at school 33 hours per week on average in the 1993–94 school year, they reported working 45 hours per week. Private school teachers were required to be at school an average of 34 hours per week, but reported working 47 hours per week.
- Public and private full-time teachers reported spending extra hours (12 and 13 hours, respectively) before and after school and on weekends; of these extra hours, about one-fourth were spent in activities involving students.
- In the 1993–94 school year, public school teachers' classes were larger than those of their private school counterparts (23 students compared to 20 students per class).
- In the 1993–94 school year, less experienced teachers (those with less than 4 years of teaching experience) worked more total hours per week than did more experienced teachers (those with 4 or more years of teaching experience).

Average hours full-time teachers spent per week at school and in school-related activities, class size, and classes taught per day, by control and level of school and years of teaching experience: School year 1993–94

Control and level of school and teacher characteristics	Average hours worked per week	Average hours required at school	Average hours spent before and after school and on weekends			Average class size	Average number of classes taught per day[2]
			Total	Activities involving students[1]	Other related activities[1]		
Public	**45.2**	**33.2**	**12.1**	**3.3**	**8.7**	**23.2**	**5.6**
Level of school							
Elementary	44.0	33.0	11.0	1.7	9.2	22.7	6.4
Secondary	46.5	33.3	13.2	5.0	8.2	23.2	5.5
Years of teaching experience							
Less than 4 years	48.3	34.4	14.0	4.2	9.8	23.2	5.5
4 years or more	44.8	33.0	11.8	3.2	8.6	23.2	5.6
Private	**47.1**	**34.2**	**12.9**	**3.6**	**9.3**	**19.6**	**6.0**
Level of school							
Elementary	45.8	34.4	11.4	2.3	9.1	20.0	7.5
Secondary	49.1	34.0	15.2	5.7	9.5	19.5	5.7
Years of teaching experience							
Less than 4 years	48.6	35.1	13.5	4.0	9.6	18.6	6.0
4 years or more	46.8	34.0	12.8	3.6	9.2	19.8	6.0

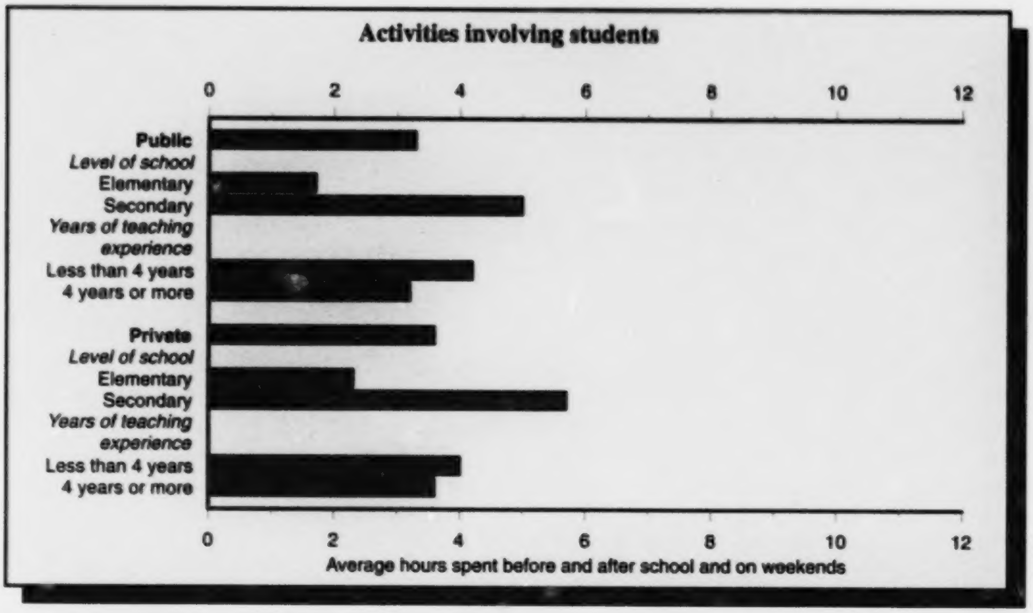
[1] "Activities involving students" includes coaching, tutoring, going on field trips, and transporting students. "Other related activities" includes preparing for class, grading papers, holding parent/teacher conferences, and attending meetings.

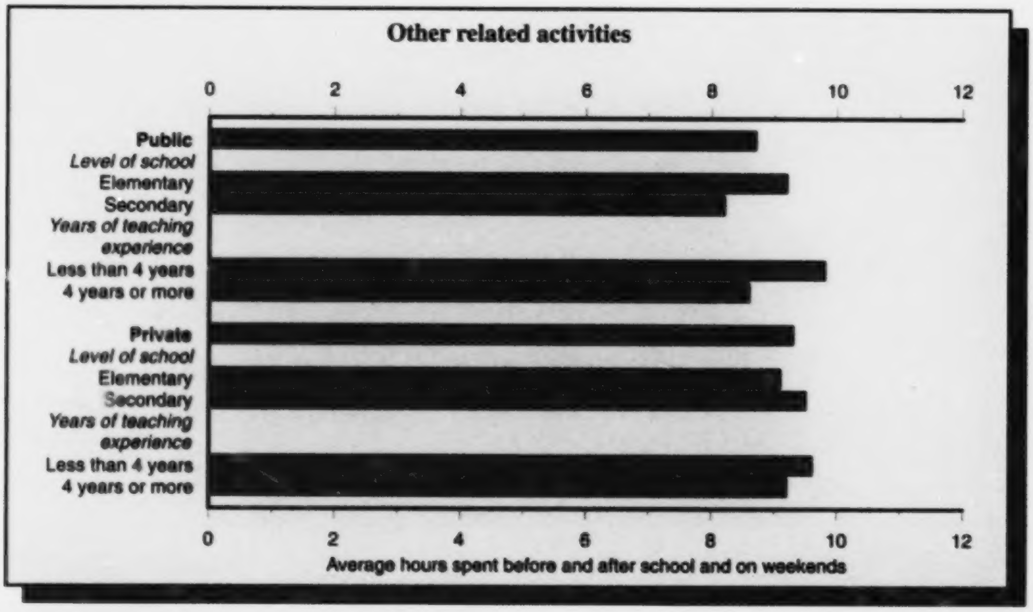
[2] Since elementary teachers do not tend to teach separate classes, only 8 percent of the teachers who responded to this question were elementary teachers, while 92 percent were secondary teachers.

NOTE: Excludes a small number of teachers whose schools did not respond to the questionnaire. Details may not add to totals due to rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey, 1993–94 (Teacher Questionnaire).

Average hours full-time teachers spent per week before and after school and on weekends, by control and level of school and years of teaching experience: School year 1993–94





SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey, 1993–94 (Teacher Questionnaire).

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Teaching workload of full-time postsecondary faculty

Teaching students is only one aspect of a postsecondary faculty member's job. Faculty members also spend time on other activities such as research, freelance work, administrative tasks, and professional growth activities. Debates about tenure, instructional time, and the overall quality of a college education raise questions about the actual time postsecondary faculty spend teaching relative to the time they spend doing these other activities.

- In 1992, faculty members spent 54 percent of their work hours teaching, 18 percent conducting research, and 13 percent performing administrative tasks.
- Between 1987 and 1992, the percentage of time full-time postsecondary faculty members spent teaching decreased (from 57 to 54 percent); however, the number of classroom and student contact hours per week increased (see supplemental table 43-1).
- Generally, full professors tended to spend a higher percentage of their time conducting research than other professors in 1992. Assistant professors, instructors, and lecturers spent a higher proportion of time teaching than full or associate professors.
- Full-time postsecondary faculty members at 2-year institutions had more student contact hours per week in 1992 than did faculty at other institutions (over 87 percent more than those at liberal arts institutions and 67 percent more than those at research institutions) (see supplemental table 43-1).

Percentage of time full-time postsecondary faculty spent on various activities, by academic rank and type of institution: Fall 1987 and fall 1992

		Academic rank					Type of institution				
Activity	Total[1]	Full professor	Associate professor	Assistant professor	Instructor	Lecturer	Research	Doctoral	Comprehensive	Liberal arts	2-year
						Fall 1992					
Total[1]	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Teaching[2]	54.4	50.2	52.3	55.3	67.8	61.1	39.0	46.0	60.2	63.6	68.7
Research/scholarship	17.6	21.5	19.4	19.7	6.0	10.2	32.4	23.0	13.3	9.7	4.5
Professional growth	4.6	4.1	4.4	4.5	5.7	5.5	3.6	4.2	5.0	4.6	5.8
Administration	13.1	15.1	13.6	9.3	10.4	12.8	12.9	14.1	12.7	14.6	12.1
Outside consulting/ freelance work	2.7	3.0	2.9	2.1	2.6	2.3	2.6	2.6	2.8	2.3	2.7
Service and other	7.4	6.0	7.1	8.9	7.5	8.1	9.3	10.1	6.0	4.9	6.1
						Fall 1987					
Total[1]	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Teaching[2]	57.1	51.3	54.2	57.4	70.1	69.3	43.3	54.1	63.5	67.1	73.1
Research/scholarship	17.3	21.1	20.3	19.0	5.9	9.5	30.3	21.9	12.0	10.2	4.2
Professional growth	4.6	3.7	4.5	4.2	7.0	5.5	4.1	4.1	4.4	4.3	5.2
Administration	13.2	16.4	13.3	10.3	9.9	8.9	13.7	13.5	13.2	13.8	11.0
Outside consulting/ freelance work	2.5	2.8	2.6	1.8	2.7	3.6	2.5	3.1	2.8	1.6	2.5
Service and other	5.4	4.8	5.1	7.4	4.4	3.2	6.4	3.3	4.2	3.0	4.0

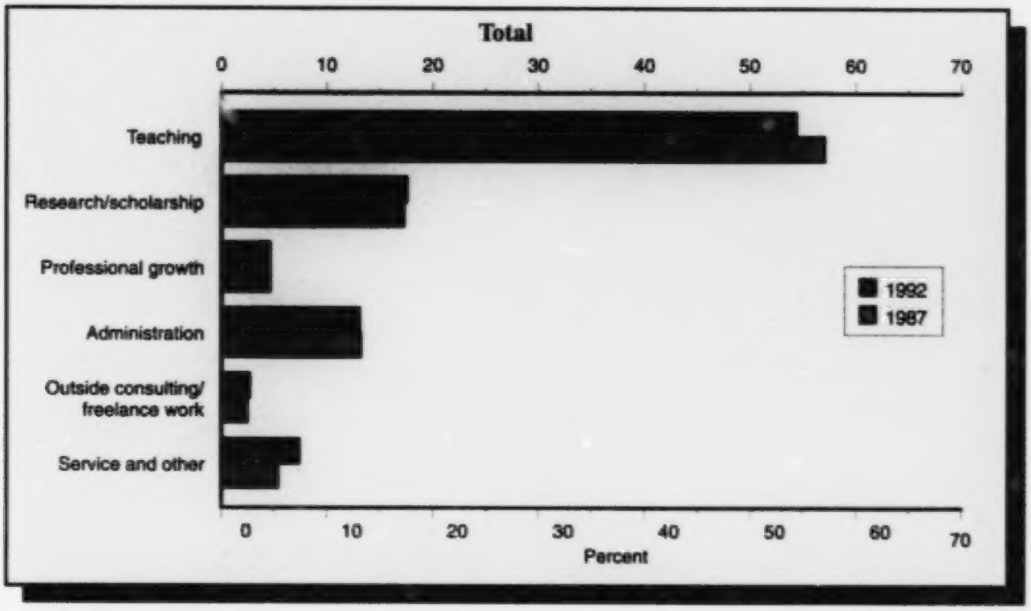
[1] Included in the total but not shown separately are other academic ranks and types of postsecondary institutions.

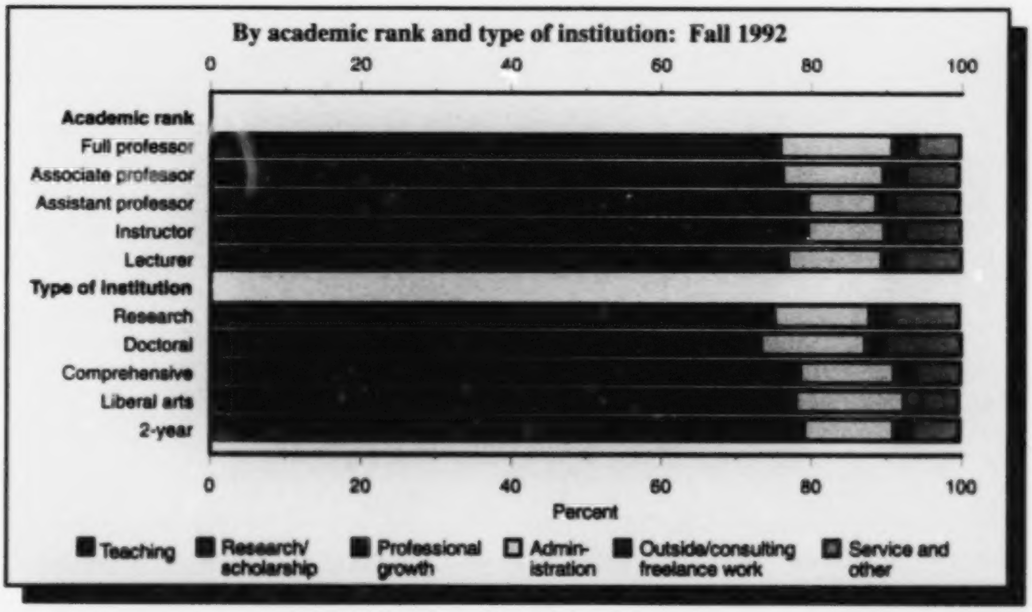
[2] Includes other activities besides teaching in the classroom such as grading papers, preparing for class, developing new curricula, advising or supervising students, and working with student organizations or intramural athletics.

NOTE: Data are revised from previously published figures. Totals may not add to 100 due to rounding. See the supplemental note to this indicator for further definitions of time spent by faculty.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Study of Postsecondary Faculty, 1988 and 1993.

Percentage of time full-time postsecondary faculty spent on various activities: Fall 1987 and fall 1992





SOURCE: U.S. Department of Education, National Center for Education Statistics, National Study of Postsecondary Faculty, 1988 and 1993.

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Climate and Diversity of Educational Institutions

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Climate and Diversity of Educational Institutions

The quality of education is reflected not only in the class subjects taught and in student achievement levels but also in the learning environment schools provide. A school's learning environment is enhanced by a diverse student population, the safety of school classrooms and facilities, and the behaviors, enrollment, and attendance patterns of the students themselves. Schools, in turn, affect their own climate by the programs and services they offer to students who have special needs.

Diversity of students

The characteristics and needs children bring to school based on their race/ethnicity, family backgrounds, economic well being, and disabilities influence the environment in which learning occurs.

Race/ethnicity

The racial/ethnic composition of the student population contributes to the increasing linguistic and cultural diversity of the Nation's elementary and secondary schools. With the rich opportunities for learning that diversity brings come challenges and risks associated with poverty, which is more concentrated among minority than nonminority students. Growth in the Hispanic population over the past decades has increased Hispanic representation in schools of all types. Like black students, Hispanic students are more concentrated in central city public schools than in other areas. In 1993, black and Hispanic students together made up more than 50 percent of students in central city public schools (Indicator 40, *Condition 1995*).

Bilingual and ESL programs

As the number of limited-English-proficient children increased from 1.25 million in 1979 to 2.44 million in 1995, the burden on school systems to provide services for those children also increased. Some schools provide bilingual education, which teaches students core curriculum content in their native language while they learn English; other schools provide intensive instruction in English as a Second Language (ESL) courses; and some schools provide both types of programs. Between the 1987–88 and 1993–94 school years, the percentage of schools that provided bilingual programs declined slightly (from 20 to 18 percent), while the percentage that provided ESL programs increased from 34 to 43 percent. In the 1993–94 school year, 27 percent of all schools with bilingual or ESL teaching vacancies found them very difficult or impossible to fill; however, schools had less difficulty filling these vacancies in the 1993–94 school year than in the 1990–91 school year (*Indicator 45*).

Students with disabilities

Programs and services offered to special populations are a function not only of the needs of the students but also of the resources available to the school. The number of students who participated in federal programs for children with disabilities has been increasing at a faster rate than total public school enrollment. Between 1977 and 1995, the number of students who participated in federal programs for children with disabilities increased by 47 percent, while total public school enrollment decreased by 2 percent (table 46-1). In 1995, children with disabilities who received services in federally supported programs comprised 12 percent of all students enrolled in public grades K–12, up from 8 percent in 1977 (*Indicator 46*). In 1994, three out of four public school children with disabilities who were served by federally supported programs were taught in regular or resource-room combined classrooms, and one out of four were served in separate classes in regular schools (table 46-4).

Higher education

There is less student racial/ethnic diversity at the postsecondary level than at the elementary/secondary level. In 1993, more than one out of five postsecondary students were members of minority groups (Indicator 45, *Condition 1996)*, compared to one out of three public elementary/secondary students. Colleges and universities have sought to increase the racial/ethnic diversity of their student bodies, and minority enrollment increased from 15 percent in 1976 to 23 percent in 1993. This increase was due primarily to the increased enrollment of Hispanic and Asian/Pacific Islander students, whereas the enrollment of black students remained fairly steady at 9 to 10 percent of all students.

Climate

A school's learning environment can both reflect and influence the behavior of students. At the same time, the learning environment is affected by events both in and outside of the school. For example, suspensions can detract from learning since students generally must be physically present at school in order to learn. Individual exposure to drugs and alcohol can negatively affect student learning as well as the overall learning environment. Additionally, working while in high school and college can take students away from their studies and can affect student success in school.

Student alcohol and drug use

Alcohol and drug use can interfere with a student's thinking, can reduce a student's academic achievement and often is associated with violent crime. Educators need to determine the scope of student alcohol and drug problems and identify how these problems affect the school's goal of providing a safe and effective learning environment. After falling dramatically throughout the 1980s and early 1990s, drug use by high school seniors is on the rise again. For example, cocaine use by high school seniors decreased from 12 percent in 1981 to 3 percent in 1992; however, it increased to 5 percent in 1996. Marijuana use dropped from 51 percent in 1979 to 22 percent in 1992; however, it climbed to 36 percent in 1996. While the percentage of high school seniors who reported consuming alcohol any time during the previous year decreased between 1979 and 1992, it still remains high (table 47-1). In 1996, 73 percent of high school seniors reported using alcohol during the previous year. In 1995, 45 percent of eighth-graders reported using alcohol in the previous year, and in 1996, 26 percent reported using alcohol in the previous 30 days (table 47-2). Also in 1995, 16 percent of eighth-graders reported using marijuana and 3 percent reported using cocaine in the previous year (*Indicator 47*).

Suspensions

Prior research has confirmed the common perception that students who have been suspended from school are at a higher risk for other poor school outcomes such as dropping out of school. Students who are being disruptive in school may not be fully engaged in active learning and students who are not in school typically cannot be expected to be learning. Eleven percent of eighth-graders in 1988 had been suspended at least once by 1992. Black students were more likely to have been suspended from school than Asian, white, or Hispanic students, and males were more likely than females to have been suspended (*Indicator 48*).

Teacher satisfaction

Teachers' attitudes and perceptions about their work environment reflect current school and classroom conditions. A combination of the degree of respect teachers received from administrators, the support they received from parents, and the amount of resources available for their use may indicate teachers' level of job satisfaction. The percentage of public school teachers who reported that they were given the necessary materials, that they received a great deal of support from parents, and that their principal enforced school rules decreased between the 1987–88 and 1993–94 school years (*Indicator 49*). In 1993–94, public school teachers were more likely than private school teachers to report that student misbehavior and routine duties interfered with teaching. Private school teachers were more likely to report that teachers participated in making important educational decisions in their schools, that teachers received a great deal of support from parents, and that there was a great deal of cooperation among staff members (table 49-1).

Working while in school

Students spend more time outside of school than in school, so their use of time outside school has important consequences for their learning. In 1995, about 33 percent of high school students were employed, and 14 percent reported working 20 or more hours per week (table 50-2). An even greater percentage of students held a job while in college. In 1995, almost half of all full-time college students and 83 percent of part-time students were employed (table 50-1). Employment among full-time college students increased from 34 percent in 1970 to 47 percent in 1988, and has remained fairly stable since then. While a job can take time away from a student's studies, it may also provide the student with an education that he or she cannot obtain inside the classroom (*Indicator 50*).

Part-time enrollment

Enrolling in college part time is an option for high school graduates who want to continue their education but who choose not to attend full time. Part-time enrollment is also an option for older or returning students, especially those aged 25 or older who are more likely to have a full-time job and family responsibilities. In 1995, almost 1 in 3 undergraduates attended college part time. In general, between 1976 and 1995, the percentage of undergraduates who enrolled part time was fairly stable. Undergraduates aged 25 or older were far more likely to attend college part time; Hispanics were more likely than whites or blacks to attend part time; and females were more likely than males to do so (*Indicator 51*).

Elementary and secondary school enrollment

School enrollment is one measure of the size of the educational system and of the demand for teachers, buildings, and education resources. Past trends and projected future changes in the composition of enrollment across levels of education and regions of the country, as well as between public and private schools, indicate the types of teachers and other resources the Nation requires. Demographics, such as birth rates and immigration, are a primary factor in determining elementary and secondary school enrollment.

- From 1984 to 1996, total public school enrollment rose 17 percent, after falling 15 percent between 1970 and 1984; public schools continue to enroll almost 9 out of 10 children (see supplemental tables 44-1 and 44-2).
- Total private school enrollment increased 2 percent between 1970 and 1986, but rose 6 percent between 1986 and 1996.
- Total public school enrollment is projected to rise from 46.4 million in 1997 to 48.3 million by 2007, an increase of 4 percent. During this same period, total private school enrollment is expected to increase 3 percent, rising from 5.9 million to 6.1 million.
- Between 1970 and 1995, the share of total public school enrollment increased in the South and West, while it declined in the Northeast and the Midwest.

Elementary and secondary school enrollment (in thousands), by control and level of school, with projections: Selected years Fall 1970–2007

	Public schools			Private schools		
Year/period	Grades K-12[1]	Grades K-8[1]	Grades 9-12	Grades K-12[1]	Grades K-8[1]	Grades 9-12
1970	45,894	32,558	13,336	5,363	4,052	1,311
1986	39,753	27,420	12,333	5,452	4,116	1,336
1996[2]	45,700	32,826	12,874	5,784	4,490	1,293
	Projected			Projected		
1997	46,353	33,216	13,138	5,863	4,544	1,320
2007	48,262	33,393	14,870	6,061	4,568	1,494
	Percentage change			Percentage change		
1970–86	-13.4	-15.8	-7.5	1.7	1.6	1.9
1986–96[2]	15.0	19.7	4.4	6.1	9.1	-3.2
	Projected percentage change			Projected percentage change		
1997–2007	4.1	0.5	13.2	3.4	0.5	13.2

[1] Enrollment includes most kindergartners and a relatively small number of nursery school students.

[2] Estimates based on preliminary data.

Percentage distribution of public elementary and secondary school enrollment, by region: Selected years Fall 1970–95

Fall of year	Northeast	Midwest	South	West
1970	21.5	28.2	32.2	18.2
1975	21.6	27.4	32.7	18.3
1980	20.1	26.2	34.6	19.2
1985	18.6	25.0	35.8	20.6
1992[1]	17.6	23.8	35.9	22.7
1993[1]	17.6	23.7	35.9	22.8
1994[1]	17.6	23.5	35.9	22.9
1995[2]	17.7	23.5	35.9	22.9

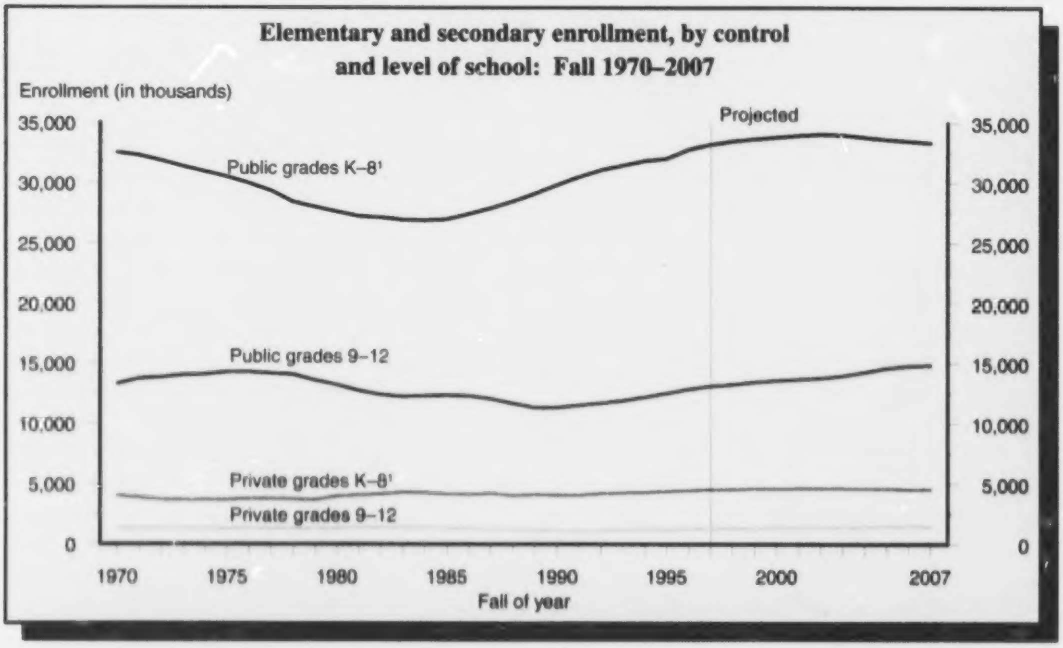
[1] Revised from previously published figures.

[2] Estimated.

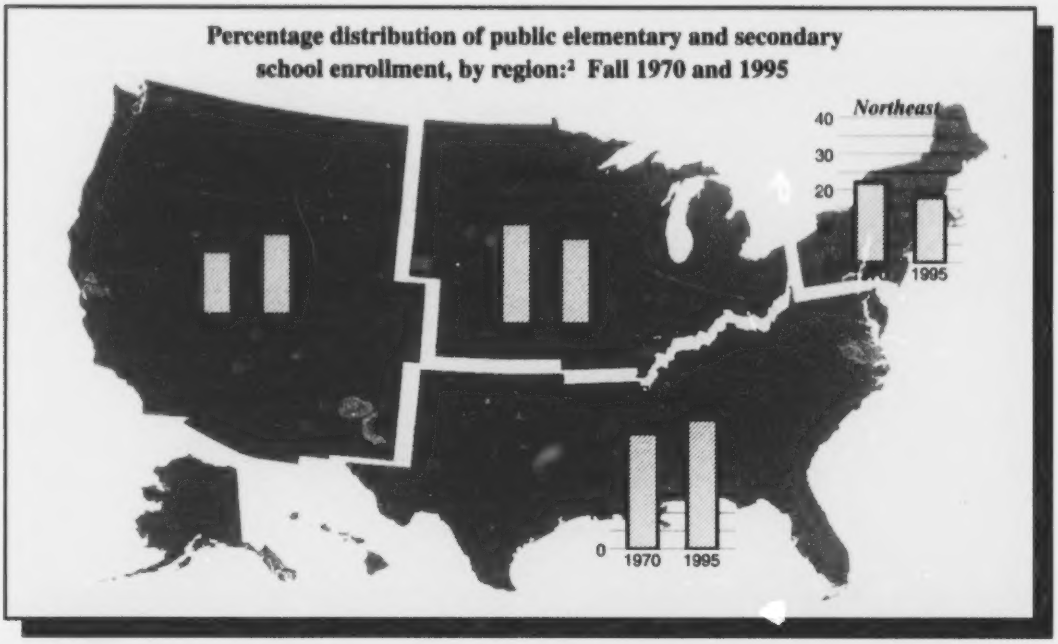
NOTE: See supplemental table 44-3 for a definition of regions.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Digest of Education Statistics, 1996* (based on Common Core of Data) and *Projections of Education Statistics to 2007*, 1997.

Elementary and secondary school enrollment



Elementary and secondary enrollment, by control and level of school: Fall 1970–2007



Percentage distribution of public elementary and secondary school enrollment, by region:[2] Fall 1970 and 1995

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[1] Enrollment includes most kindergartners and a relatively small number of nursery school students.

[2] See note in supplemental table 44-3 for a definition of regions.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Digest of Education Statistics, 1996* (based on Common Core of Data) and *Projections of Education Statistics to 2007*, 1997.

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Public schools with bilingual or ESL programs

If students are to have a full range of educational and job opportunities open to them, they must develop competence in speaking, reading, and writing English. Public schools are required to provide programs to help children with limited English proficiency develop competence in the language. Some schools provide bilingual education, which teaches students using their native language while they learn English; others provide intensive instruction in English as a second language (ESL); and some provide both. As the number of children with difficulty speaking English has increased (from 1.25 million in 1979 to 2.44 million in 1995), so has the burden on school systems to recruit teachers with the skills necessary to teach these classes. The difficulty schools have in filling such positions is one indication of whether the supply of bilingual and ESL teachers is adequate to meet the demand.

- In school year 1993–94, 46 percent of all public schools had limited-English-proficient (LEP) students. In central cities and urban fringe/large towns, about 60 percent of the schools had such students. In five states, 75 percent or more of the schools had LEP students (see supplemental table 45-1).

- Between school years 1987–88 and 1993–94, the percentage of schools that provided bilingual programs declined slightly (from 20 to 18 percent), while the percentage providing ESL programs increased from 34 to 43 percent. In rural areas, the percentage of schools that provided ESL programs increased by about 50 percent.

- In school year 1993–94, 27 percent of all schools with bilingual/ESL teaching vacancies found them very difficult or impossible to fill, more than for many other teaching fields. However, schools generally had less difficulty filling these vacancies in school year 1993–94 than in 1990–91.

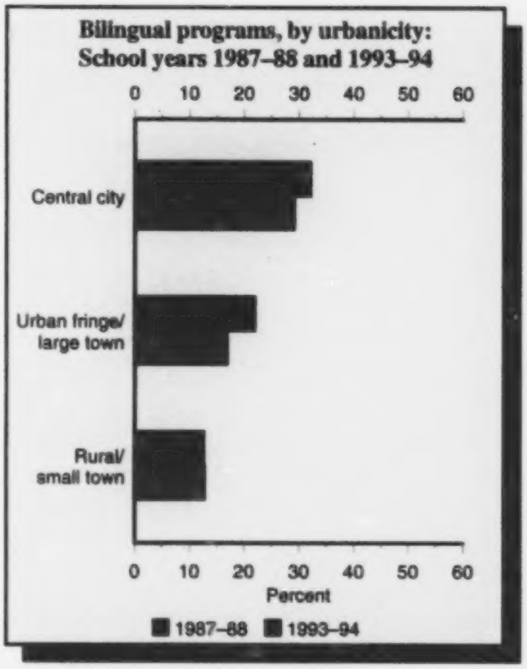
Percentage of public schools that enrolled students with limited English proficiency, that provided bilingual or ESL programs, and that found it difficult or impossible to fill teacher vacancies in this field, by level of school, urbanicity, and school size: School years 1987–88, 1990–91, and 1993–94

Level of school, urbanicity, and school size	Percentage of schools with LEP students	Percentage of schools providing: Bilingual programs		ESL programs		Either bilingual or ESL programs		Percentage of schools with bilingual/ESL vacancies that found them difficult or impossible to fill*	
	1993–94	1987–88	1993–94	1987–88	1993–94	1987–88	1993–94	1990–91	1993–94
Total	**46.3**	**20.0**	**17.8**	**34.4**	**42.7**	**39.6**	**44.3**	**38.2**	**27.2**
Level of school									
Elementary	48.9	21.0	18.9	35.4	45.0	40.9	46.6	39.9	25.8
Secondary	41.2	18.0	14.8	35.2	38.4	39.3	39.6	38.5	32.0
Urbanicity									
Central city	61.4	32.2	29.2	47.0	54.0	54.0	56.0	40.5	33.1
Urban fringe/large town	60.7	22.0	16.9	49.5	57.6	54.5	58.9	40.4	16.9
Rural/small town	31.1	12.7	12.8	19.5	29.0	23.9	30.6	32.6	30.0
School size									
1-149	15.8	13.0	7.9	12.7	13.3	17.9	15.6	23.8	24.0
150-499	39.3	15.4	14.9	28.8	36.2	33.8	37.9	34.0	21.6
500-749	58.2	24.6	21.0	41.9	54.3	47.5	56.0	41.6	28.9
750 or more	68.1	32.0	27.5	54.5	62.6	60.0	63.3	39.8	31.4

* Percentage of schools that had difficulty filling vacancies was not available for 1987-88.

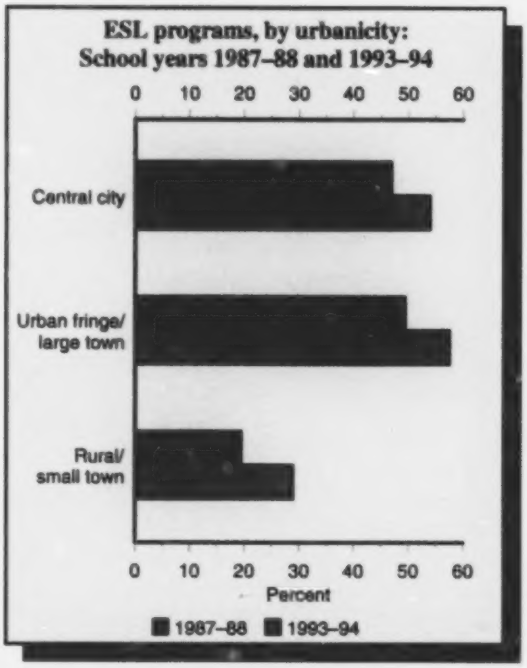
SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey, 1987–88, 1990–91, and 1993–94 (School Questionnaire).

Percentage of public schools that provided bilingual or ESL programs

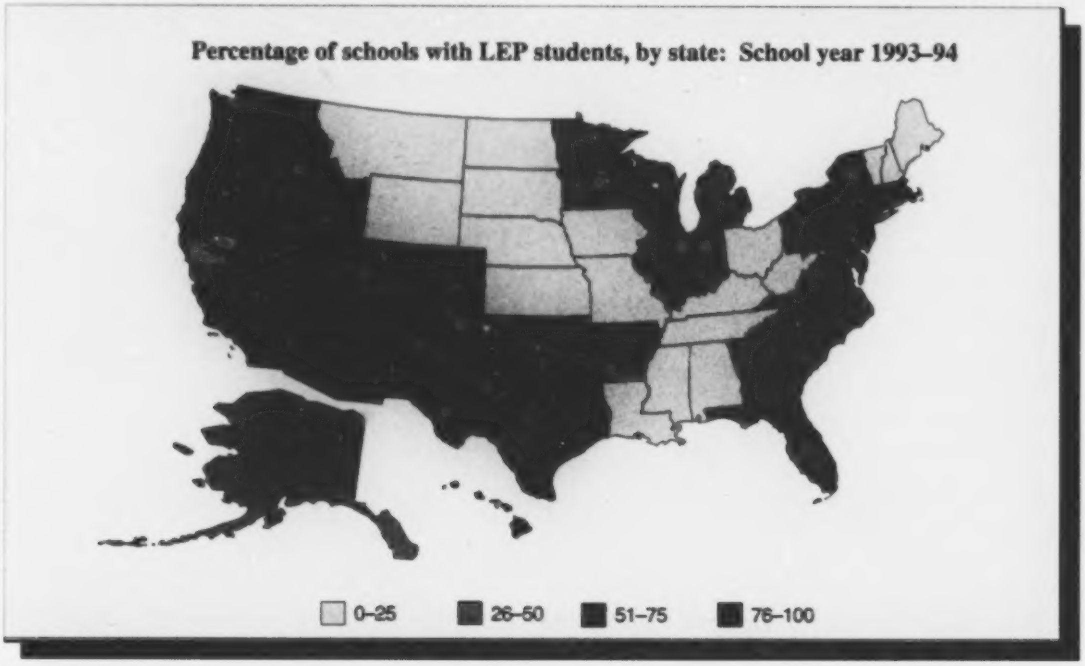


Bilingual programs, by urbanicity: School years 1987–88 and 1993–94

ESL programs, by urbanicity: School years 1987–88 and 1993–94



Percentage of schools with LEP students, by state: School year 1993–94



SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey, 1987–88 and 1993–94 (School Questionnaire).

Education of students with disabilities

The Individuals with Disabilities Education Act (IDEA) mandates that all children have available to them a free and appropriate education designed to meet their unique needs. Changes in the percentage of total public elementary and secondary enrollment and the distribution of students with disabilities affect the level of effort required of educators and policymakers to comply with the current law and help them to forecast the need for future resources.

- The number of students participating in federal programs for children with disabilities has increased at a faster rate than total public school enrollment. Between 1977 and 1995, the number of students who participated in federal programs for children with disabilities increased 47 percent, while total public school enrollment decreased by 2 percent (see supplemental table 46-1).

- In 1995, children with disabilities receiving services in federally supported programs comprised 12 percent of all students enrolled in public schools (grades K–12), up from 8 percent in 1977.

- Between 1977 and 1995, the percentage of children with specific learning disabilities as a percentage of total public K–12 enrollment rose from 2 to 6 percent, while those with speech or language impairments or mental retardation decreased slightly.

- In 1992, males with specific learning disabilities represented 7 percent of total public school enrollment, while females with this type of disability accounted for 3 percent (see supplemental table 46-2).

Children from birth to age 21 who were served by federally supported programs for students with disabilities, by type of disability: Selected school years ending 1977–95

Type of disability	1977	1979	1981	1983	1985	1987	1989	1991	1993	1994[1]	1995[2]
						As a percentage of total public K–12 enrollment					
All disabilities	**8.3**	**9.1**	**10.1**	**10.8**	**11.0**	**11.0**	**11.3**	**11.6**	**12.0**	**12.2**	**12.3**
Specific learning disabilities	1.8	2.7	3.6	4.4	4.7	4.8	4.9	5.2	5.5	5.6	5.7
Speech or language impairments	2.9	2.9	2.9	2.9	2.9	2.9	2.4	2.4	2.3	2.3	2.3
Mental retardation	2.2	2.1	2.0	1.9	1.8	1.6	1.4	1.3	1.2	1.2	1.3
Serious emotional disturbance	0.6	0.7	0.8	0.9	0.9	1.0	0.9	0.9	0.9	1.0	1.0
Preschool disabled[3]	(4)	(4)	(4)	(4)	(4)	(4)	1.0	1.1	1.2	1.3	1.2
						Percentage distribution					
All disabilities	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Specific learning disabilities	21.6	29.1	35.3	40.9	42.5	43.8	43.7	44.7	45.9	45.6	46.1
Speech or language impairments	35.3	31.2	28.2	26.6	26.1	26.0	21.3	20.7	19.4	18.9	18.8
Mental retardation	26.0	23.2	20.0	17.8	16.1	14.7	12.4	11.2	10.1	10.1	10.5
Serious emotional disturbance	7.7	7.7	8.4	8.3	8.6	8.8	8.3	8.2	7.8	7.8	7.9
Preschool disabled[3]	(4)	(4)	(4)	(4)	(4)	(4)	8.7	9.3	10.4	10.9	9.6

[1] Revised from previously published figures.

[2] Data for 1995 are for children aged 3-21.

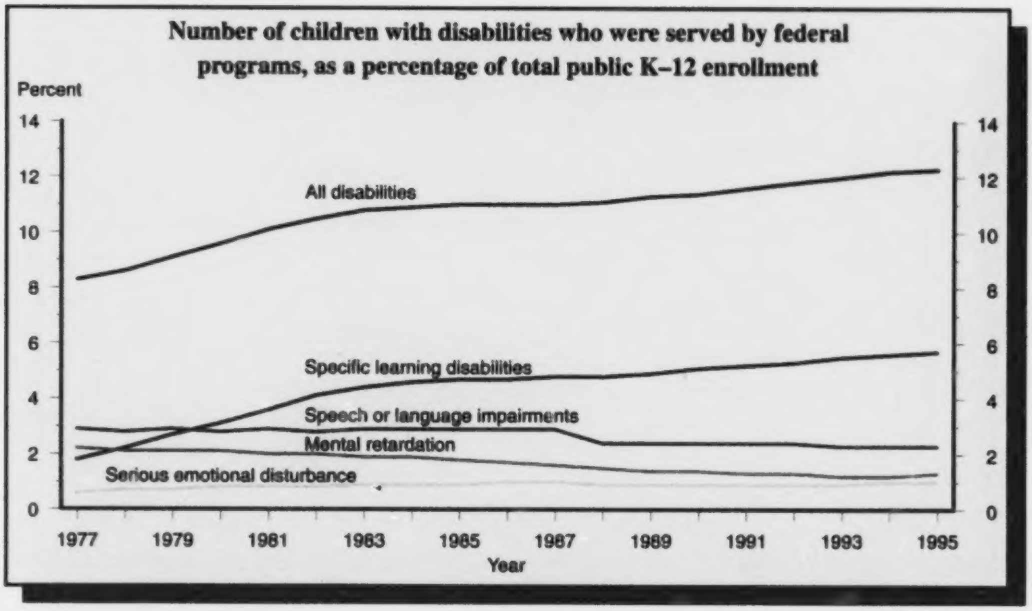
[3] Includes preschool children aged 3-5 who were served under Chapter 1 of the Education Consolidation and Improvement Act (ECIA) and those aged 0-5 served under Part B of the IDEA.

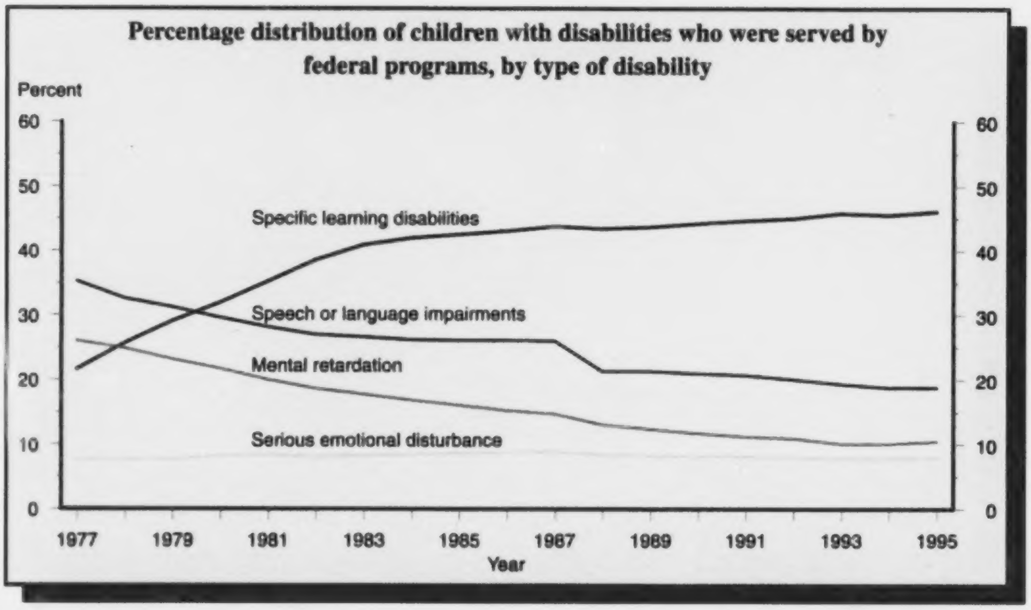
[4] Prior to the 1987-88 school year, preschool disabled students were included in the counts by disabling condition. Beginning in the 1987-88 school year, states were no longer required to report preschool students (0-5 years) with disabilities by disabling condition.

NOTE: This analysis includes students who were served under Chapter 1 of the ECIA and Part B of IDEA.

SOURCE: U.S. Department of Education, Office of Special Education and Rehabilitative Services, *Eighteenth Annual Report to Congress on the Implementation of the Individuals with Disabilities Education Act*; and National Center for Education Statistics, *Digest of Education Statistics, 1996*.

Children from birth to age 21 who were served by federally supported programs for students with disabilities, by type of disability: School years ending 1977–95





NOTE: This analysis includes students who were served under Chapter 1 of the Education Consolidation and Improvement Act (ECIA) and Part B of the Individuals with Disabilities Education Act (IDEA). Data for 1995 are for children aged 3–21.

SOURCE: U.S. Department of Education, Office of Special Education and Rehabilitative Services, *Eighteenth Annual Report to Congress on the Implementation of the Individuals with Disabilities Education Act*; and National Center for Education Statistics, *Digest of Education Statistics, 1996*.

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Student alcohol and drug use

Alcohol and drug use can interfere with a student's thinking and reduce a student's academic achievement, and it is associated with violent crime. Therefore, it is important for educators and administrators to determine the scope of student drug and alcohol problems both in and outside of schools and how these problems affect the schools' goal of providing a safe and effective learning environment. The percentage of students who report alcohol and drug use is an indicator of how prevalent these problems are.

- After falling dramatically throughout the 1980s and early 1990s, drug use by high school seniors has begun to rise again. The percentage of seniors who reported having used cocaine in the previous year decreased from 12 percent in 1981 to 3 percent in 1992; however, it increased to 5 percent in 1996. The percentage of seniors who reported having used marijuana dropped from 51 percent in 1979 to 22 percent in 1992; however, it climbed to 36 percent in 1996 (see supplemental table 47-1).

- While the percentage of high school seniors who reported consuming alcohol any time during the previous year decreased between 1979 and 1992, it still remains high (see supplemental table 47-1). In 1996, 73 percent of high school seniors reported using alcohol during the previous year and 51 percent reported using alcohol in the previous 30 days (see supplemental table 47-2).

- In 1995, 45 percent of 8th-graders reported using alcohol in the previous year and 26 percent reported using alcohol in the previous 30 days in 1996 (see supplemental table 47-2). Also, in 1995, 16 percent of 8th-graders reported using marijuana and 3 percent reported using cocaine in the previous year.

- In 1995, 8th-, 10th-, and 12th-graders who planned to complete 4 or more years of college were less likely to report alcohol, marijuana, or cocaine use in the previous year than those who did not plan to complete 4 or more years of college.

Percentage of high school seniors who reported using alcohol or drugs any time during the previous year, by type of drug: Selected school years 1975–96

Type of drug	1975	1978	1981	1984	1987	1990	1993	1994	1995	1996
Alcohol	84.8	87.7	87.0	86.0	85.7	80.6	*72.7	*73.0	*73.7	*72.5
Marijuana	40.0	50.2	46.1	40.0	36.3	27.0	26.0	30.7	34.7	35.8
Any illicit drug other than marijuana	26.2	27.1	34.0	28.0	24.1	17.9	17.1	18.0	19.4	19.8
Stimulants	16.2	17.1	26.0	17.7	12.2	9.1	8.4	9.4	9.3	9.5
Inhalants	—	4.1	4.1	5.1	6.9	6.9	7.0	7.7	8.0	7.6
LSD	7.2	6.3	6.5	4.7	5.2	5.4	6.8	6.9	8.4	8.8
Cocaine	5.6	9.0	12.4	11.6	10.3	5.3	3.3	3.6	4.0	4.9
Sedatives	11.7	9.9	10.5	6.6	4.1	3.6	3.4	4.2	4.9	—
Tranquilizers	10.6	9.9	8.0	6.1	5.5	3.5	3.5	3.7	4.4	4.6

— Not available.

* In 1993, the questions regarding alcohol consumption were changed; therefore, data for alcohol use in 1993-96 may not be comparable to those for earlier years. For example, in 1993, the original wording produced an estimate of 76 percent for alcohol use.

NOTE: Only drug use not under a doctor's orders is included.

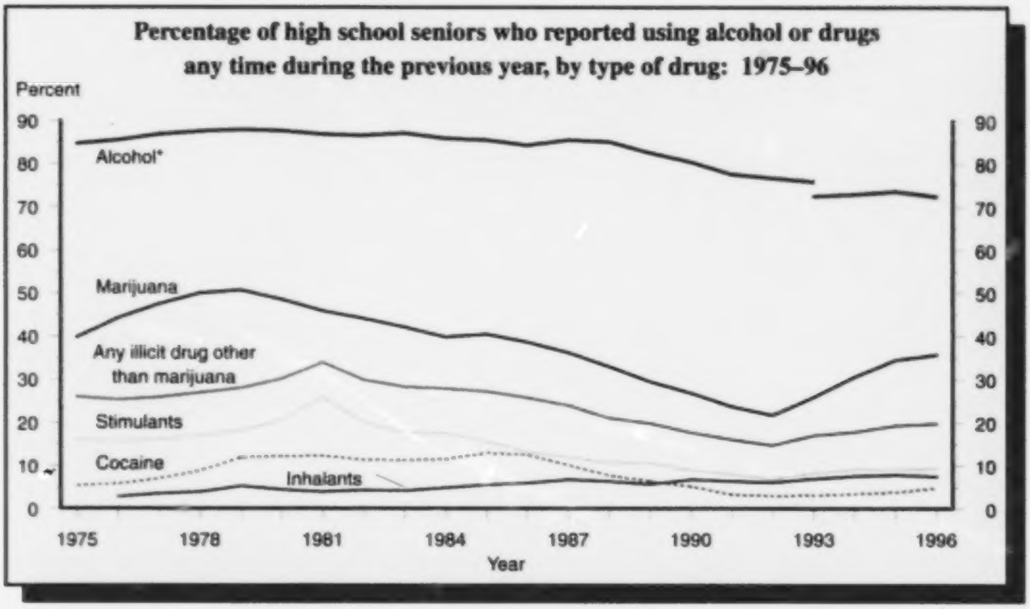
SOURCE: University of Michigan, Survey Research Center, Institute for Social Research, Monitoring the Future Study.

Percentage of students who reported using alcohol or drugs any time during the previous year, by type of drug, grade, sex, and college plans: 1995

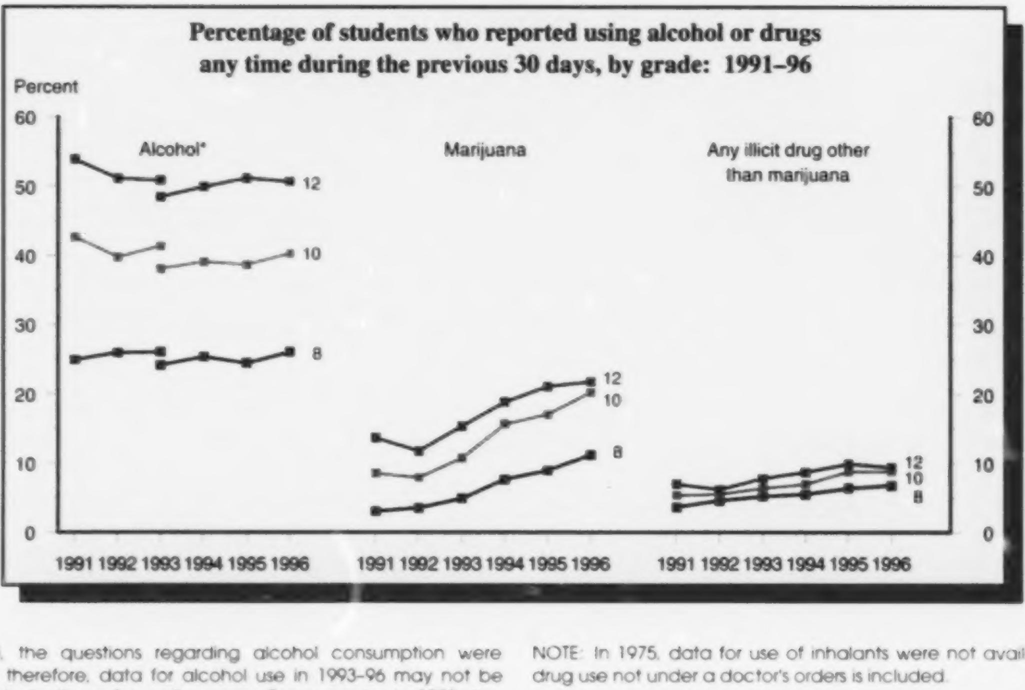
	Alcohol			Marijuana			Cocaine		
Sex and college plans	8th-graders	10th-graders	12th-graders	8th-graders	10th-graders	12th-graders	8th-graders	10th-graders	12th-graders
Total	**45.3**	**63.5**	**73.7**	**15.8**	**28.7**	**34.7**	**2.6**	**3.5**	**4.0**
Sex									
Male	46.3	63.4	74.5	17.7	30.6	38.1	2.5	3.5	4.8
Female	44.3	63.6	72.7	13.7	26.5	30.6	2.6	3.3	3.1
College plans									
Less than 4 years or none	59.6	75.0	78.6	30.3	41.8	39.0	7.0	7.2	5.6
Complete 4 years	43.4	61.6	72.0	13.8	26.4	32.6	2.0	2.8	3.4

SOURCE: Lloyd D. Johnston, Patrick O'Malley, and Jerald G. Bachman, *National Survey Results on Drug Use from the Monitoring the Future Study, 1975–1995, Volume I, Secondary School Students*, Institute for Social Research, University of Michigan, 1996.

Student alcohol and drug use



Percentage of high school seniors who reported using alcohol or drugs any time during the previous year, by type of drug: 1975–96



Percentage of students who reported using alcohol or drugs any time during the previous 30 days, by grade: 1991–96

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* In 1993, the questions regarding alcohol consumption were changed; therefore, data for alcohol use in 1993–96 may not be comparable to those for earlier years. For example, in 1993, the original wording produced an estimate of 76 percent for alcohol use. Both data points for 1993 are presented on the graphs.

NOTE: In 1975, data for use of inhalants were not available. Only drug use not under a doctor's orders is included.

SOURCE: University of Michigan, Survey Research Center, Institute for Social Research, Monitoring the Future Study.

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Students who have been suspended from school

Prior research has confirmed the common perception that students who have been suspended from school are at higher risk for other poor school outcomes—including dropping out of school. Students who are being disruptive in school may not be fully engaged in active learning. Also, students who are not in school typically cannot be expected to be learning. Moreover, black and Hispanic students are suspended at rates higher than those for other groups, and males are suspended at greater rates than females.[1] *In many urban schools, up to one-third of students may be suspended during the school year. In one urban school more than half of all black students were suspended during the school year.*[2]

- Black students in the eighth-grade class of 1988 were more likely to have ever been suspended from school than were Asian, white, or Hispanic students.
- Overall, males were more likely than females to have ever been suspended, with males having been suspended at twice the rate of females (15 and 7 percent, respectively).
- Students from lower socioeconomic (SES) backgrounds were more likely to have ever been suspended from school at least once, compared with students from higher SES backgrounds: 17 percent of students from the lowest SES quartile were suspended, compared to 7 percent of those from the highest SES quartile.
- Within each SES quartile, black students were still suspended at higher rates than their white and Hispanic peers.

Percentage of 1988 eighth-graders who had ever been suspended, by race/ethnicity, sex, and socioeconomic status: 1992

Sex and Socioeconomic status	Total	Race/ethnicity White	Black	Hispanic	Asian/Pacific Islander	American Indian/ Alaskan Native
Total	**11.1**	**9.7**	**19.8**	**11.8**	**9.8**	**15.8**
Sex						
Male	14.9	13.6	24.4	15.5	9.8	24.4
Female	7.4	5.8	15.5	8.3	9.9	11.8
Socioeconomic status						
Lowest quartile	17.1	14.7	25.7	13.4	21.5	—
Second quartile	12.6	11.7	18.5	9.8	7.5	11.0
Third quartile	10.8	9.8	15.4	12.5	15.4	—
Highest quartile	6.7	6.3	13.6	10.7	2.9	—

— Too few sample observations for a reliable estimate.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Education Longitudinal Study of 1988, Second Follow-up Survey (1992).

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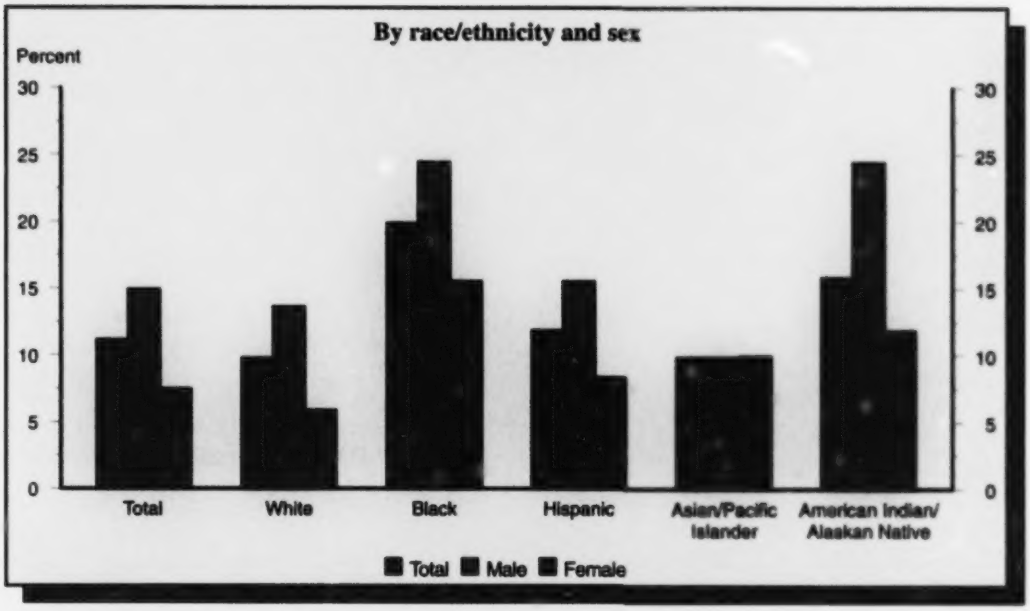
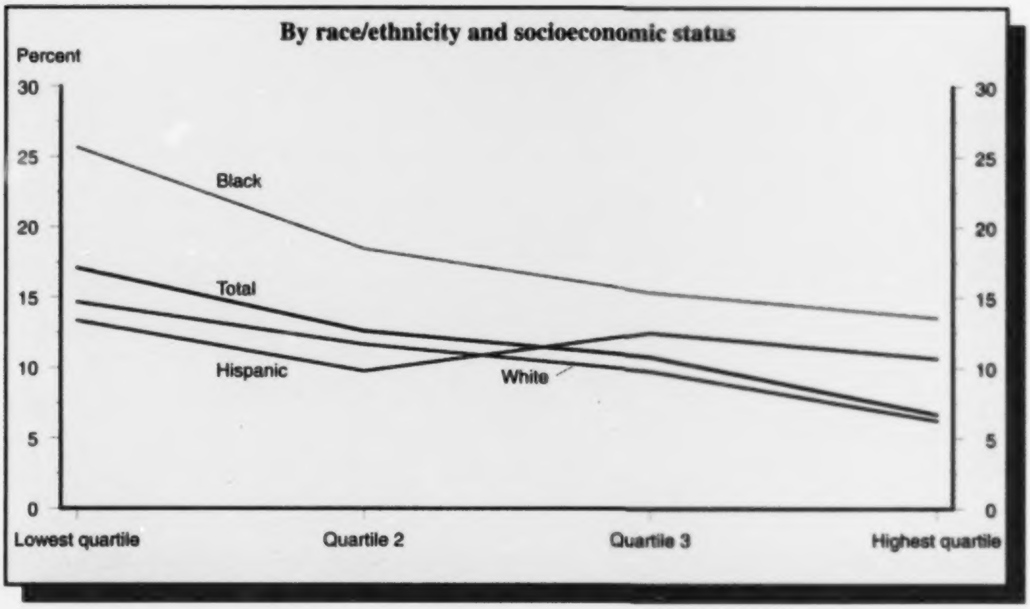
[1] Gary Wehlage, R. Rutter, G. Smith, N. Lesko, and R. Fernandez, *Reducing the Risk: Schools as Communities of Support*, The Falmer Press, 1989.

[2] Fred Newmann, *Student Engagement and Achievement in American Secondary Schools*, Teachers College Press, 1992.

Percentage of 1988 eighth-graders who had ever been suspended: 1992





SOURCE: U.S. Department of Education, National Center for Education Statistics, National Education Longitudinal Study of 1988, Second Follow-up Survey (1992).

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Teacher satisfaction

Teachers' attitudes and perceptions about their work environment reflect current school conditions. Measures such as the degree of respect teachers receive from administrators, the support they receive from parents, and the amount of resources available may indicate the level of teachers' job satisfaction as well as their attitudes toward the teaching profession in general.

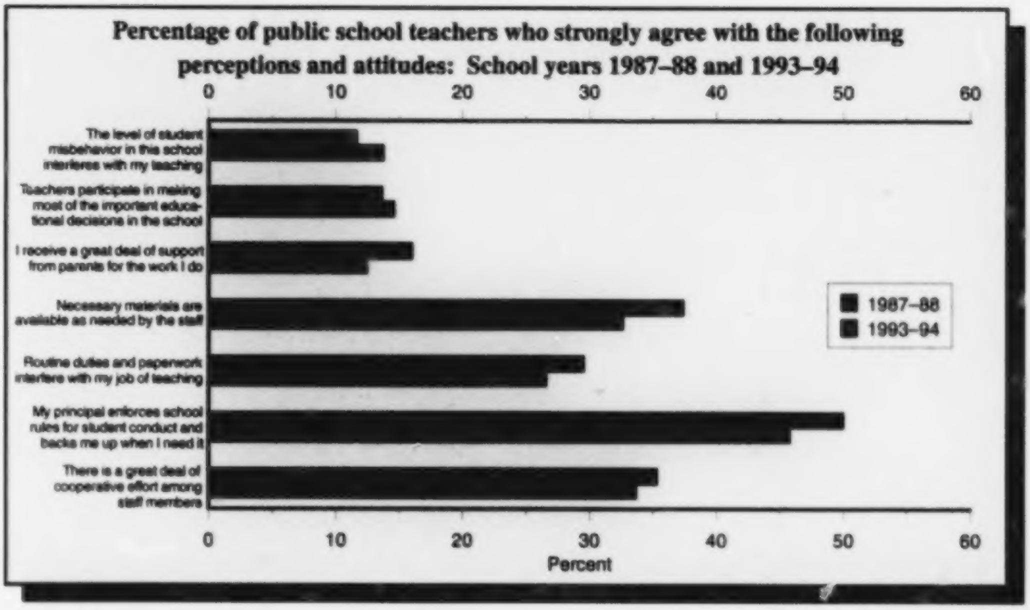
- Between the 1987–88 and 1993–94 school years, public school teacher satisfaction decreased in the areas of support from parents, having the necessary materials, and enforcement of school rules by principals.
- In 1993–94 school year, public school teachers from high poverty schools (more than 40 percent of students eligible for free or reduced-price lunch) were more likely to report that student misbehavior and routine duties interfered with their work and less likely to report that they received a great deal of support from parents than those teachers from low poverty schools (5 percent or less of students eligible for free or reduced-price lunch).
- In the 1993–94 school year, public school teachers were more likely than private school teachers to report that student misbehavior and routine duties interfered with teaching. Private school teachers were more likely to report that teachers participated in important educational decisions in their schools, received a great deal of support from parents, and had a great deal of cooperation among staff members (see supplemental table 49-1).
- Public elementary teachers were more likely than public secondary teachers to report that teachers participated in making important educational decisions in their school, they received a great deal of support from parents, their principal enforced school rules, and that there was a great deal of cooperation among staff members in the 1993–94 school year (see supplemental table 49-2).

Public school teachers' perceptions and attitudes toward teaching, by percentage of students eligible for free or reduced-price lunch: School years 1987–88 and 1993–94

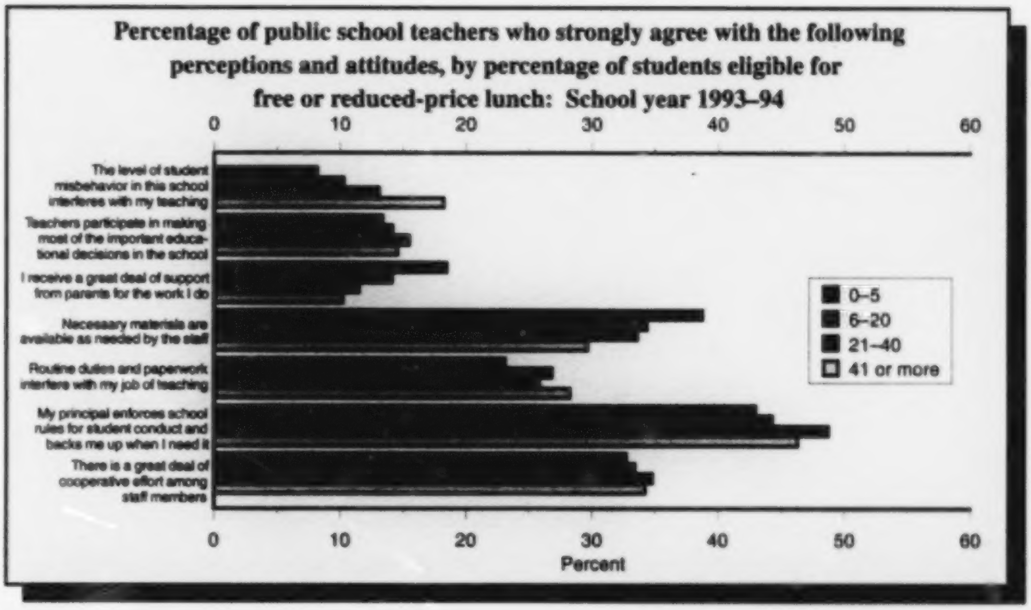
		1993–94				
			Percentage of students eligible for free or reduced-price lunch			
Perceptions and attitudes	1987–88 Total	Total	0–5	6–20	21–40	41 or more
Percentage of teachers who strongly agree with the following:						
The level of student misbehavior (e.g., noise, horseplay, or fighting in the halls, cafeteria, or student lounge) in this school interferes with my teaching	11.7	13.8	8.2	10.3	13.1	18.3
Teachers participate in making most of the important educational decisions in this school	13.7	14.6	13.4	14.1	15.5	14.6
I receive a great deal of support from parents for the work I do	16.0	12.5	18.5	14.1	11.5	10.2
Necessary materials are available as needed by the staff	37.4	32.6	38.8	34.4	33.6	29.6
Routine duties and paperwork interfere with my job of teaching	29.6	26.6	23.1	26.8	25.8	28.3
My principal enforces school rules for student conduct and backs me up when I need it	50.0	45.8	43.0	44.3	48.8	46.4
There is a great deal of cooperative effort among the staff members	35.3	33.7	32.7	33.5	34.8	34.3

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey, 1987–88 and 1993–94.

Teachers' perceptions and attitudes toward teaching



Percentage of public school teachers who strongly agree with the following perceptions and attitudes: School years 1987–88 and 1993–94



Percentage of public school teachers who strongly agree with the following perceptions and attitudes, by percentage of students eligible for free or reduced-price lunch: School year 1993–94

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey, 1987-88 and 1993-94.

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Working while in college

Working while enrolled in college can be both beneficial and detrimental to a student's academic and labor market success. Although working during the school year leaves less time for students to concentrate on their studies or to participate in extracurricular activities, students who work may gain valuable knowledge and skills that are not taught in the classroom. While some studies show that working long hours while in college may reduce a student's likelihood of completing college or lengthen the time it takes to complete a degree, some employment experience may increase a student's employment prospects and expected post-graduation wages.

- The percentage of full-time college students aged 16–24 who were employed rose from 34 percent in 1970 to 47 percent in 1988, and has remained fairly stable since then.
- In general, between 1970 and 1995, white and Hispanic full-time college students aged 16–24 were more likely to be employed than their black peers.
- Almost half (47 percent) of full-time college students aged 16–24 were employed in October 1995, and more than one-fourth (27 percent) worked at least 20 hours per week. In addition, 83 percent of part-time college students in the same age group were employed, with 73 percent working at least 20 hours per week (see supplemental table 50-1).

Percentage of full-time college students aged 16–24 who were employed in October, by race/ethnicity and hours worked per week: Selected years 1970–95

	All students			White			Black			Hispanic		
October	Total*	20 or more hours	35 or more hours	Total*	20 or more hours	35 or more hours	Total*	20 or more hours	35 or more hours	Total*	20 or more hours	35 or more hours
1970	33.8	14.1	3.7	34.9	14.7	3.9	21.2	8.0	1.8	—	—	—
1972	35.1	15.0	3.4	36.3	15.2	3.2	21.5	12.2	5.8	42.7	21.0	2.5
1974	36.6	17.0	4.7	38.2	17.4	4.7	23.2	13.0	5.0	34.4	15.8	6.8
1976	37.5	16.9	4.0	39.6	17.7	3.9	22.7	11.9	4.7	35.4	14.8	3.1
1978	39.9	19.0	4.7	41.8	19.7	4.7	22.2	11.7	4.7	53.2	26.8	7.4
1980	40.0	17.9	3.8	42.1	18.3	3.8	24.0	12.2	5.1	41.4	26.6	4.5
1982	39.9	18.5	3.1	42.4	19.6	3.0	26.2	12.2	4.3	33.1	14.1	1.6
1984	42.1	21.0	4.2	44.7	22.0	4.3	25.2	14.8	3.2	34.8	19.7	4.1
1986	43.0	21.9	4.3	46.3	23.5	4.7	24.7	14.2	3.9	40.5	22.6	2.1
1988	46.5	24.5	4.7	48.9	25.1	5.0	31.8	18.6	3.3	40.9	28.7	6.7
1990	45.7	24.1	4.8	48.6	25.1	5.2	29.8	17.1	2.8	45.7	28.0	6.7
1991	47.2	25.4	5.6	49.6	26.5	6.0	31.7	19.1	3.4	54.2	30.6	4.3
1992	47.2	25.8	5.5	50.5	27.2	5.9	30.2	19.9	4.4	47.0	29.4	4.7
1993	46.3	24.6	5.1	50.1	26.5	5.5	28.9	18.0	3.8	46.7	25.1	6.3
1994	48.6	27.5	5.8	52.1	29.5	6.2	33.4	21.4	5.8	50.2	28.7	5.3
1995	47.2	26.8	6.5	50.6	28.1	6.6	35.2	23.7	4.1	37.4	24.8	8.6

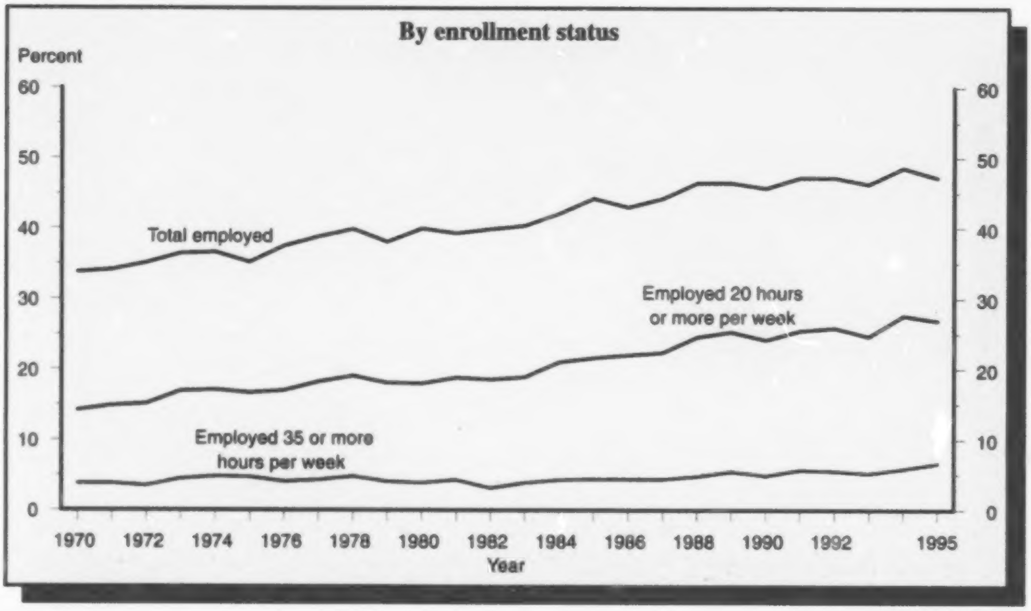
— Not available.

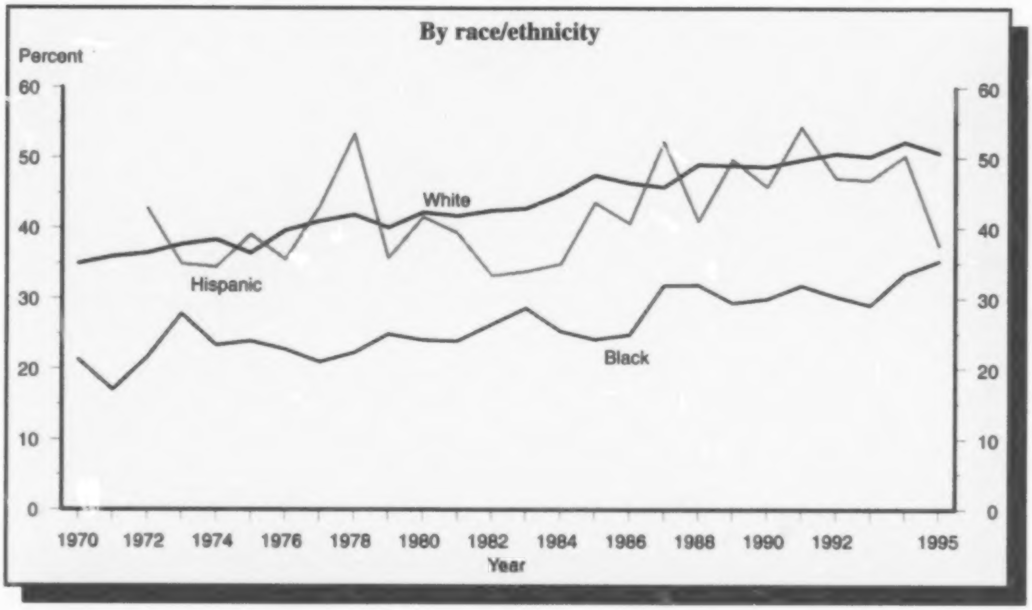
* Includes those who were employed but not at work during the survey week.

NOTE: Included in the total but not shown separately are students from other racial/ethnic groups.

SOURCE: U.S. Department of Commerce, Bureau of the Census, October Current Population Surveys.

Percentage of full-time college students aged 16–24 who were employed* in October: 1970–95





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* Includes those who were employed but not at work during the survey week.

SOURCE: U.S. Department of Commerce, Bureau of the Census, October Current Population Surveys.

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Part-time enrollment in higher education

Enrolling in college part time is an option for high school graduates who want to continue their education but who choose not to attend full time. Part-time enrollment is also an option for older or returning students, especially those aged 25 or older who are more likely to have a full-time job and family responsibilities, as well as for those who are unable to attend full time due to financial, time, and other constraints. On the other hand, younger students who attend college part time may be less likely to complete and attain a degree.

- In 1995, about 3 in 10 undergraduates attended college part time. In general, between 1976 and 1995, the percentage of undergraduates who enrolled part time was similar.
- Between 1976 and 1995, undergraduates aged 25 or older were far more likely to be enrolled part time than undergraduates aged 18–24.
- In general, between 1976 and 1995, Hispanic undergraduates were more likely to be enrolled in college part time than were their white and black counterparts. In 1995, the percentage of Hispanic students enrolled part time was 10 and 7 percentage points higher than those of whites and blacks, respectively.
- Between 1978 and 1995, female undergraduates were more likely to be enrolled part time than their male counterparts.

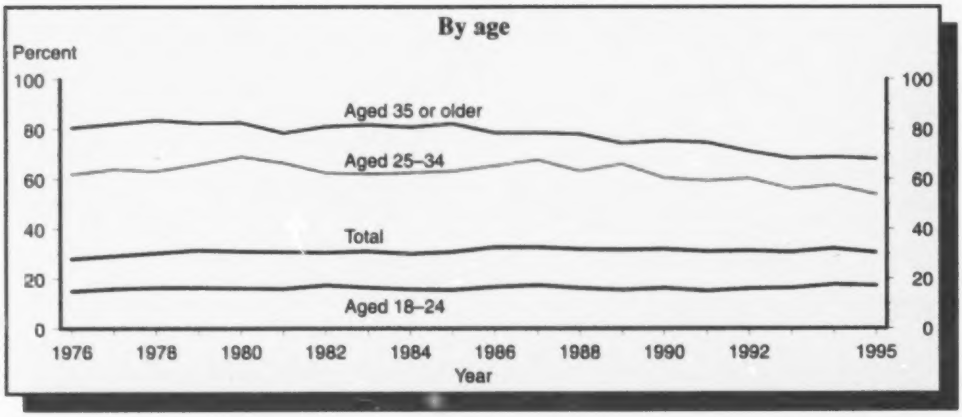
Percentage of undergraduate students enrolled in college part time, by age, race/ethnicity, sex, and type of institution: Selected Octobers 1976–95

		Age			Race/ethnicity			Sex		Type of institution	
October	Total	18-24	25-34	35 or older	White	Black	Hispanic	Male	Female	2-year	4-year
1976	27.9	14.6	61.7	80.2	28.1	24.0	33.4	26.8	29.0	48.2	17.6
1978	30.3	16.1	62.9	83.3	30.5	28.2	39.9	27.0	33.7	53.3	18.0
1980	30.9	15.8	68.7	82.3	30.6	31.4	35.8	25.7	35.5	50.4	18.9
1982	30.5	16.9	62.1	80.9	30.0	31.3	41.5	26.3	34.4	48.5	18.9
1984	29.9	15.4	62.2	80.5	29.6	31.1	31.9	24.7	34.7	49.1	19.4
1986	32.5	16.3	64.8	78.1	32.3	29.3	41.8	28.6	35.9	53.9	20.2
1988	31.8	15.9	62.9	77.8	31.6	33.1	40.9	27.8	35.1	50.7	21.3
1990	31.9	15.8	60.1	74.9	31.7	29.8	42.8	28.1	35.0	51.1	21.3
1991	31.1	14.7	58.9	74.2	31.0	30.9	37.9	27.4	34.1	48.8	20.5
1992	31.2	15.6	59.9	70.8	30.9	29.9	42.4	27.1	34.3	48.6	21.3
1993	30.7	15.9	55.7	67.9	31.0	30.0	37.1	26.8	34.0	45.9	22.0
1994	32.2	17.2	57.0	68.4	31.1	33.6	44.4	28.5	35.2	48.8	23.7
1995	30.5	16.7	53.3	67.7	29.5	32.4	39.6	28.1	32.5	48.2	22.1

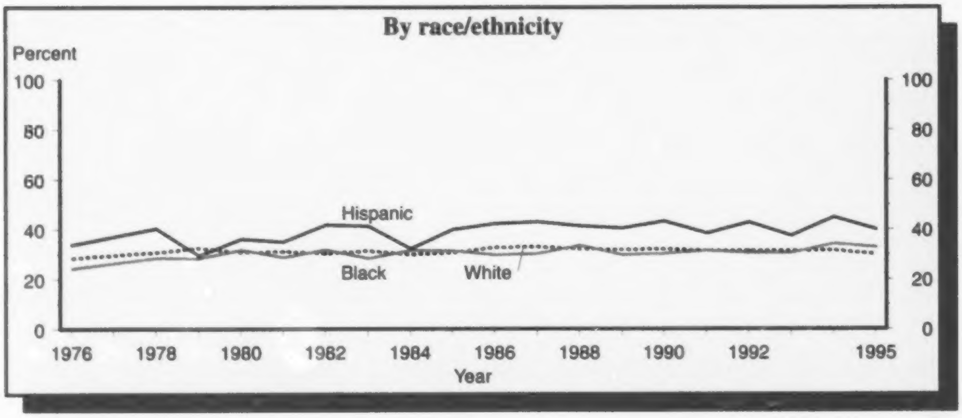
NOTE: Students who were enrolled in college but had not completed high school (less than 1 percent of the total enrolled) were not included in this analysis.

SOURCE: U.S. Department of Commerce, Bureau of the Census, October Current Population Surveys.

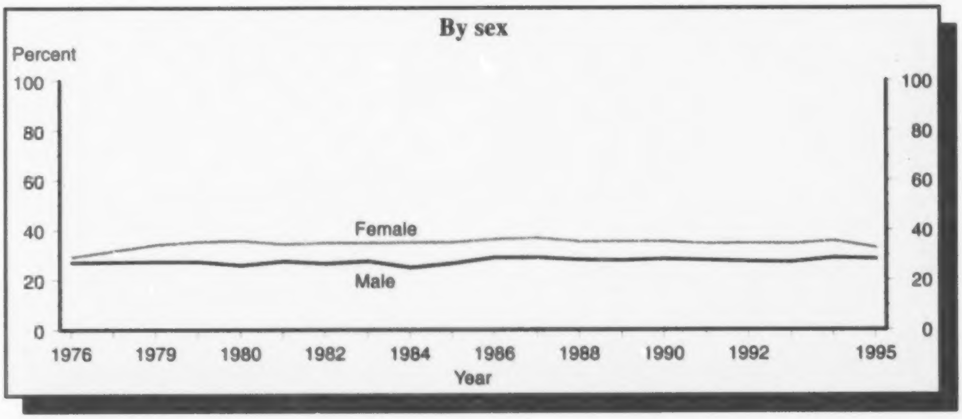
Percentage of undergraduate students enrolled in college part time: October 1972–95



By age



By race/ethnicity



By sex

NOTE: Data by race/ethnicity, sex, those aged 35 or older, and total were not available in 1977. Students who were enrolled in college but had not completed high school (less than 1 percent of the total enrolled) were not included in this analysis.

SOURCE: U.S. Department of Commerce, Bureau of the Census, October Current Population Surveys.

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Financial and Human Resources of Educational Institutions

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Financial and Human Resources of Educational Institutions

During the 1980s and early 1990s, education officials at our Nation's schools, colleges, and universities faced challenges in providing students with a quality education, in light of constraints in the financial and human resources available to them. Nationwide, postsecondary institutions are confronting declining support from government appropriations and an increased reliance on other financial sources, such as tuition. At the elementary and secondary levels, the supply of teachers and teacher qualifications continue to be of concern. Furthermore, calls to raise the quality of education have grown as Americans feel increasing competitive pressure from the global marketplace.

Financial resources

The United States expends a substantial amount of its financial resources on education. It is important to have a full understanding of where and how our Nation expends its education resources. Measuring per pupil expenditures at the elementary/secondary and postsecondary level is one way to do this.

Elementary/secondary education

Expenditures in public elementary and secondary schools can be divided into three main functional areas: Instruction, support services, and capital outlay. The distribution of expenditures across functional areas may be a measure of how different public school systems allocate resources to meet their individual needs.

In the 1993–94 school year, public schools spent $6,330 per pupil (in 1996 constant dollars). Of that amount, more than half ($3,449) was spent on instruction, including teacher salaries and benefits, supplies, and purchased instructional services. Between the 1989–90 and 1993–94 school years, the percentage of total expenditures per pupil, adjusted for inflation, that public schools spent on instruction remained relatively stable, while the percentage of expenditures per pupil spent on support services decreased and the percentage spent on capital outlay increased. In the 1992–93 school year, relatively high wealth school districts (those with a median household income of $35,000 or more) spent more per pupil than school districts with less wealth (*Indicator 52*).

Higher education

At all types of higher education institutions, overall spending per full-time-equivalent (FTE) student increased between 1984 and 1994. In 1996 constant dollars, these increases ranged from 15 percent at public 2-year colleges to 39 percent at private universities. Although instructional expenditures per FTE student increased between 1984 and 1994, instructional spending as a percentage of total expenditures fell by 3 percentage points at public universities and public 4-year colleges and by 4 percentage points at private 4-year colleges. Research expenditures increased by 38 percent in private universities and 43 percent in public universities during this period (table 54-1).

As expenditures increased at higher education institutions, tuition and fees per FTE student increased both in constant dollars and as a share of all revenue at all public institutions between 1984 and 1994, rising from $3,028 to $4,187 (in 1996 constant dollars). At private universities, average tuition and fees increased from $11,338 to $15,508 (in 1996 constant dollars). Between 1984 and 1994, government appropriations per FTE student fell both in constant dollars and as a share of all revenue at public institutions. For example, at public universities, government appropriations per FTE student fell from $8,327 to $7,393 in constant dollars and from 53 to 42 percent as a share of all revenue between 1984 and 1994 (table 53-1).

International comparisons

On the international level, the proportion of total resources that a country chooses to invest in education raises a number of issues, for example, whether and to what extent the public and private sectors should endure education costs. In 1993, total expenditures on education institutions in the United States were 4.2 percent of the Gross Domestic Product (GDP) for the primary/secondary grade levels, 2.5 percent for higher education, and 6.8 percent for all levels combined. While, of the G-7 countries, Canada and France spent a larger proportion of GDP on primary/secondary education, only Canada spent a larger portion of GDP on higher education than did the United States or for all levels combined (*Indicator 55*).

Human resources

Teachers are the most vital human resource for schools, and understanding the teacher work force is crucial to providing education to the Nation's students. Examining the career and salary trends of teachers as well as their educational backgrounds and qualifications can provide a glimpse into the nation's most important educational resource.

Teacher attrition

Teacher attrition is the largest single factor in determining the demand for additional teachers in the nation's schools. Six percent of full-time public school teachers and 10 percent of full-time private school teachers who taught during the 1993–94 school year left teaching before the 1994–95 school year. One-third of those public school teachers who left the teaching profession did so to retire (*Indicator 58*).

Teacher qualifications and training

Although it is difficult to assess the quality of education, many believe that the educational background of a teacher is an important measure of a teacher's qualifications. The qualifications of mathematics and science teachers especially have been called into question due to the importance placed on preparing U.S. students to compete in an increasingly technical workplace. In public schools, during the 1993–94 school year, 9 out of 10 secondary students in science classes were taught by a teacher who either majored or minored in science. However, fewer than 8 out of 10 students in mathematics classes were taught by a teacher who majored or minored in mathematics (*Indicator 57*).

Teacher salaries

Teacher salaries are a concern among policymakers, since attracting well-qualified teachers in schools involves an increase in teachers' base salaries. In 1996, the average annual salary (in 1996 constant dollars) of public elementary school teachers was $37,916, while the average annual salary for public secondary school teachers was $39,162. Between 1980 and 1996, the average salary (adjusted for inflation) of all public school teachers increased 19 percent, rising from $32,332 to $38,434 (table 56-1). Average beginning teacher salaries increased 24 percent over this period, rising from $20,292 to $25,167. However, even with this 24 percent increase, the average beginning teacher salary in 1996 was about the same as that in 1972 (*Indicator 56*).

Teacher salaries are relatively low when compared to salaries of other professions that college students could pursue, and this may discourage the "best and brightest" college students from choosing teaching as a profession. In 1995, the average annual salary of individuals aged 25 or older with a bachelor's degree was $45,773 (in 1996 constant dollars), while the average annual salary of public school teachers was $38,456 (*Indicator 56*).

Higher education faculty

At the postsecondary level, faculty are involved in different types of work-related issues, and institutions have different concerns when trying to attract and retain faculty members. While tenure inspires much debate among educators and policymakers, tenure-track positions are one way institutions attract the "best" faculty, since tenure denotes job security, salary, and benefits. However, institutions may rely on nontenure-track faculty to respond to fluctuating enrollment, to fill temporary vacancies, and to teach specialized courses. In fall 1992, higher education institutions employed nearly as many nontenure-track as tenure-track instructional staff members (45 and 48 percent, respectively). Among institutions with a tenure system, research universities had the lowest percentage of nontenure-track faculty (29 percent), while 2-year colleges had the highest (67 percent) (*Indicator 60*).

Among institutions with tenure-track systems, faculty may be pressured to conduct and publish research material, such as books, journal articles, and reports. This research responsibility is usually in addition to their teaching responsibilities and means that faculty members must strike a balance between research and teaching. On one hand, research activities can be an asset to both the institution and student, bringing together the creation and transmittal of knowledge. On the other hand, research activities may decrease the amount of time faculty have to prepare lectures and work individually with students. In fall 1987 and fall 1992, the average research output of full-time postsecondary faculty for the previous two years was similar. In fall 1992, faculty produced about three articles or creative works, and about four presentations or exhibits during the previous 2 years. At research institutions, postsecondary faculty produced on average more articles or creative works during the previous 2 years than faculty at other types of higher education institutions (*Indicator 59*).

Public elementary and secondary expenditures per student

Public elementary and secondary spending can be divided into three main functional areas: instruction, support services, and capital outlay. How school districts spend the funds they receive are influenced by many factors: The overall level of funding, the organizational structure of the district, district- and state-level goals, differences in student needs (e.g., demand for special education services and programs for limited-English-proficient students), and the relative cost of educational resources (e.g., teacher salaries, building maintenance, and construction costs for new schools). The distribution of expenditures across functional areas is an indication of how different public school systems allocate funds to meet their specific needs.

- In the 1993–94 school year, public schools spent $6,330 per pupil (in 1996 constant dollars). Of that amount, more than half ($3,449) was spent on instruction, which includes teacher salaries and benefits, supplies, and purchased instructional services.
- Between the 1989–90 and 1993–94 school years, the percentage of total expenditures per pupil that public schools spent on instruction remained relatively constant, while the percentage of expenditures per pupil spent on support services decreased and the percentage spent on capital outlay increased.
- In the 1992–93 school year, relatively high wealth school districts (those with a median household income of $35,000 or more) spent more per pupil than school districts with less wealth. The distribution of expenditures across functional areas was fairly similar regardless of the wealth of the school district (see supplemental table 52-1).
- School districts with a low percentage of minority school-age children (less than 20 percent) spent slightly more per pupil on capital outlay than school districts with a high percentage of minority school-age children (20 percent or more), while those districts with a high percentage of minority school-age children spent slightly more on support services than those districts with a low percentage of minority school-age children.

Public school expenditures per pupil (in 1996 constant dollars) and percentage distribution, by function: School years 1989-90 to 1993-94

						Percentage distribution				
School year	Total	Instruction	Support services	Capital outlay	Other	Total	Instruction	Support services	Capital outlay	Other
1989-90	$6,203	$3,371	$2,217	$430	$184	100.0	54.3	35.7	6.9	3.0
1990-91	6,527	3,546	2,315	471	195	100.0	54.3	35.5	7.2	3.0
1991-92	6,315	3,431	2,213	370	300	100.0	54.3	35.0	5.9	4.7
1992-93	6,202	3,374	1,996	566	267	100.0	54.4	32.2	9.1	4.3
1993-94	6,330	3,449	2,026	578	276	100.0	54.5	32.0	9.1	4.4

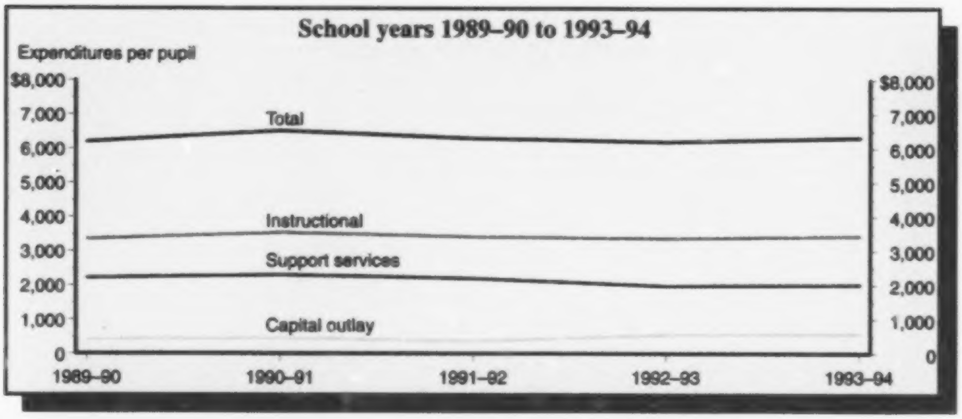
Public school expenditures per pupil (in 1996 constant dollars), by function and selected district characteristics: School year 1992-93

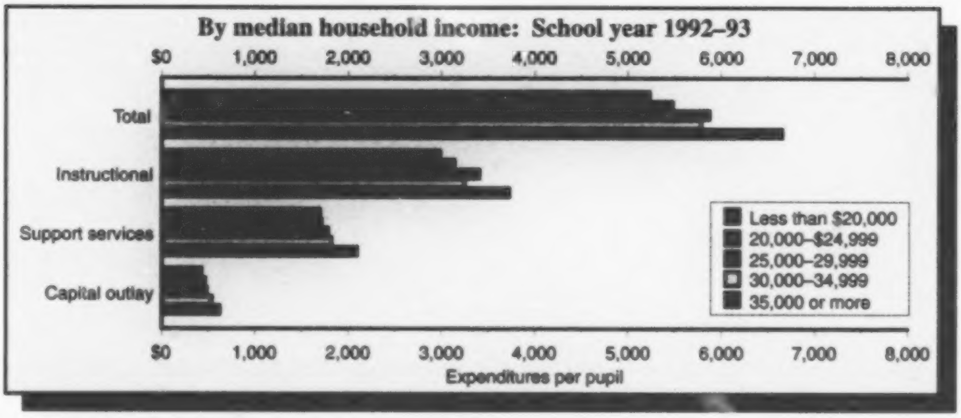
Selected district characteristics	Total	Instruction	Support services	Capital outlay	Other
Median household income					
Less than $20,000	$5,237	$2,993	$1,709	$434	$100
$20,000-24,999	5,487	3,147	1,723	473	143
$25,000-29,999	5,881	3,413	1,792	490	187
$30,000-34,999	5,794	3,260	1,831	551	152
$35,000 or more	6,661	3,737	2,102	630	192
Percentage of minority school-age children					
Less than 20 percent	5,972	3,384	1,828	580	180
20 percent or more	5,922	3,392	1,907	474	149

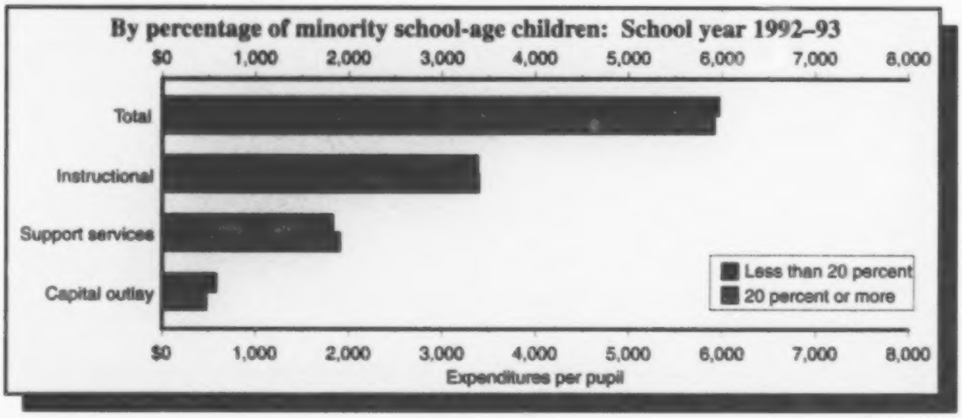
NOTE: Details may not add to totals due to rounding. Median household income categories are in 1992-93 dollars. See the glossary for definitions of specific functions. The number of pupils includes those who were enrolled on October 1. The Consumer Price Index (CPI) was used to adjust expenditures into constant 1996 dollars. See table 53-1 for resources on alternative adjustment approaches.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data, "National Public Education Financial Survey," various years and "School District Fiscal Data," 1992-93. U.S. Department of Commerce, Bureau of the Census, "1990 Census School District Special Tabulations."

Public school expenditures per pupil (in constant 1996 dollars), by function







NOTE: Median household income categories are in 1992-93 dollars. See the glossary for a definition of functions. The number of pupils includes those who were enrolled on October 1. The Consumer Price Index (CPI) was used to adjust expenditures into constant 1996 dollars. See table 53-1 for resources on alternative adjustment approaches.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data, "National Public Education Financial Survey," various years and "School District Fiscal Data," 1992-93. U.S. Department of Commerce, Bureau of the Census, "1990 Census School District Special Tabulations."

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Higher education revenues per student

A substantial proportion of higher education revenues consists of student tuition and fees, government appropriations, and private gifts and endowments. Since access to higher education is partially determined by its cost to students, changes in the relative importance of these revenue sources can influence a student's decision to pursue a higher education degree.

- The primary source of revenue for public institutions is from federal, state, and local government appropriations. Between 1984 and 1994, government appropriations per full-time-equivalent (FTE) student fell both in constant dollars and as a share of all revenue at public universities, from $8,327 to $7,393 in constant dollars and from 53 to 42 percent as a share of all revenue (see supplemental table 53-1).
- Between 1984 and 1994, tuition and fees per FTE student increased both in constant dollars and as a share of all revenue at all public institutions. At public universities, for example, tuition and fees rose from $3,028 to $4,187 in constant dollars and from 19 to 24 percent as a share of all revenue during this period (see supplemental table 53-1).
- Between 1984 and 1994, average tuition and fee revenue per FTE student increased at private universities, rising from $11,338 to $15,508 in constant dollars. In addition, revenue from private gifts and endowment income per FTE student climbed by 36 percent (from $5,591 to $7,584), compared to less than 1 percent at private 4-year colleges (from $2,657 to $2,665).

Current fund revenues of institutions of higher education per full-time-equivalent (FTE) student (in 1996 constant dollars), by selected revenue sources and control and type of institution: Academic years ending 1977–94

	Universities[1]				Colleges					
	Private		Public		Private 4-year		Public 4-year		Public 2-year	
Academic year ending	Tuition and fees[2]	Gifts and endowment	Tuition and fees[2]	Government appropriations	Tuition and fees[2]	Gifts and endowment	Tuition and fees[2]	Government appropriations	Tuition and fees[2]	Government appropriations
1977	$9,269	$4,829	$2,513	$8,476	$7,019	$2,442	$1,885	$7,546	$1,029	$4,557
1978	9,239	4,781	2,541	8,649	7,052	2,367	1,858	7,702	987	4,600
1979	9,330	4,830	2,583	8,923	7,096	2,384	1,825	7,981	990	4,665
1980	9,366	4,833	2,552	8,738	7,162	2,480	1,804	8,061	994	4,557
1981	9,602	4,984	2,567	8,379	7,205	2,489	1,825	7,869	989	4,286
1982	9,970	5,024	2,687	8,196	7,431	2,573	1,912	7,841	1,045	4,232
1983	10,649	4,887	2,907	8,019	7,754	2,630	1,964	7,608	1,050	3,931
1984	11,338	5,591	3,028	8,327	8,003	2,657	2,126	7,532	1,089	4,011
1985	11,735	5,876	3,047	8,880	8,265	2,781	2,186	8,107	1,160	4,357
1986	12,138	6,084	3,223	9,083	8,498	2,826	2,268	8,263	1,178	4,561
1987	13,007	6,394	3,371	8,867	9,057	2,960	2,273	7,968	1,191	4,583
1988	13,349	6,648	3,532	8,942	9,298	2,942	2,363	8,043	1,176	4,472
1989	13,667	6,791	3,628	8,929	9,497	2,938	2,431	7,709	1,235	4,489
1990	13,783	6,899	3,712	8,798	9,773	2,877	2,471	7,520	1,234	4,302
1991	14,250	6,998	3,838	8,555	10,081	2,838	2,486	6,934	1,287	4,279
1992	14,617	7,002	4,001	7,974	10,433	2,719	2,808	6,881	1,351	4,035
1993	15,002	7,382	4,080	7,647	10,644	2,679	3,212	6,894	1,695	3,985
1994	15,508	7,584	4,187	7,393	10,960	2,665	3,381	6,972	1,779	4,104

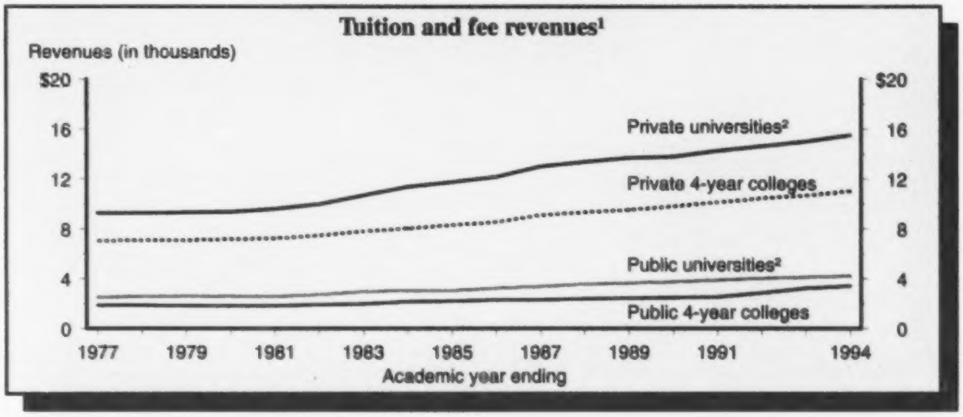
[1] Includes doctoral-granting institutions with and without medical schools.

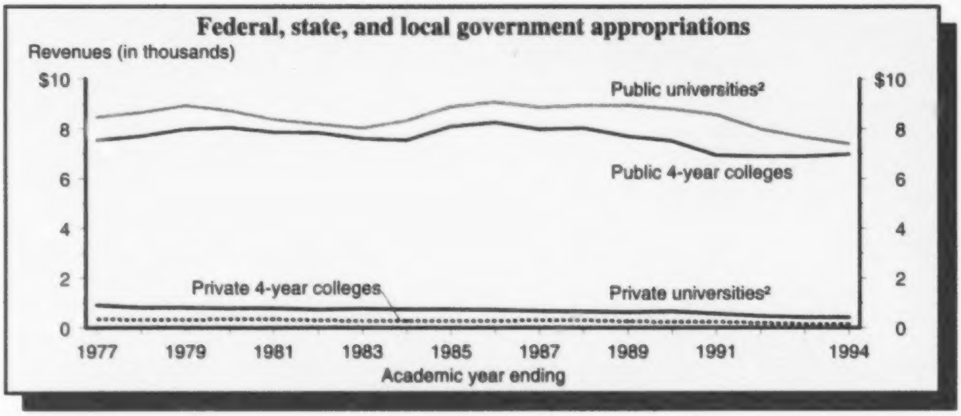
[2] Federally supported student aid received through students (e.g., Pell grants) is included under tuition and fees.

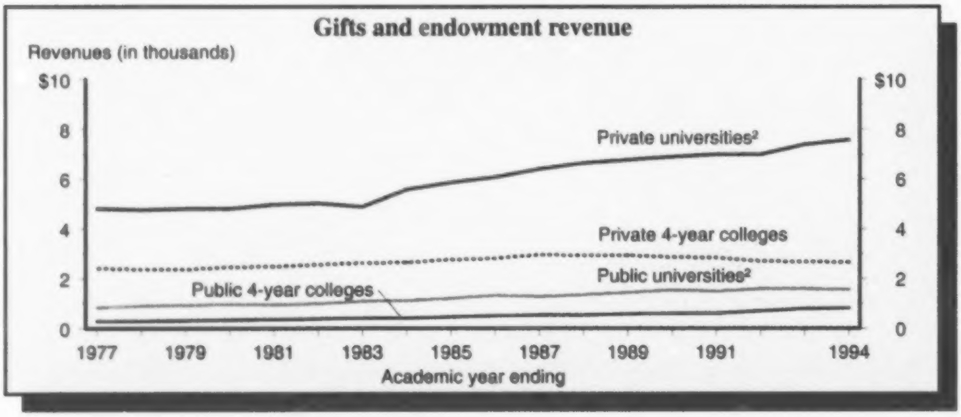
NOTE: The Higher Education Price Index (HEPI) was used to calculate constant dollars and the Consumer Price Index (CPI) was used to forecast the HEPI to July 1996. Data for academic years 1976–77 through 1993–94 include only institutions that provide both enrollment and finance data.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Financial Statistics of Institutions of Higher Education Survey and Integrated Postsecondary Education Data System (IPEDS) "Fall Enrollment," "Financial Statistics," and "Institutional Characteristics" surveys.

Current fund revenues of institutions of higher education per full-time-equivalent (FTE) student (in 1996 constant dollars), by selected revenue sources and type of institution: Academic years ending 1977–94







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[1] Federally supported student aid received through students (e.g., Pell grants) is included under tuition and fees.

[2] Includes doctoral-granting institutions with and without medical schools.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Financial Statistics of Institutions of Higher Education Survey and Integrated Postsecondary Education Data System (IPEDS) "Fall Enrollment," "Financial Statistics," and "Institutional Characteristics" surveys.

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Higher education expenditures per student

Faculty and staff salaries and institutionally supported research account for a large share of higher education expenditures. Since differences in institutional spending can affect the quality of instruction and learning experiences, understanding variations in expenditure categories can provide some insight into the organization and operation of higher education institutions.

- Overall spending per full-time-equivalent (FTE) student increased at all types of higher education institutions between 1984 and 1994. In 1996 constant dollars, increases ranged from 15 percent at public 2-year colleges (from $5,636 to $6,462 per FTE student) to 39 percent at private universities (from $26,185 to $36,280 per FTE student).
- Although instructional expenditures per FTE student increased between 1984 and 1994, instructional spending as a percentage of total expenditures fell at public universities, public 4-year colleges, and private 4-year colleges. At private universities and public 2-year colleges, the percentages of total expenditures in the 2 years were similar (see supplemental table 54-1).
- Between 1984 and 1994, research expenditures increased by 38 percent in private universities (from $4,643 to $6,405) and 43 percent in public universities (from $2,996 to $4,288). Over the decade, research spending accounted for roughly 18 percent of total institutional expenditures in private universities, and rose from 19 to 22 percent of total spending in public universities (see supplemental table 54-1).

Educational and general expenditures of institutions of higher education per full-time-equivalent (FTE) student (in 1996 constant dollars), by selected expenditure categories and control and type of institution: Academic years ending 1977–94

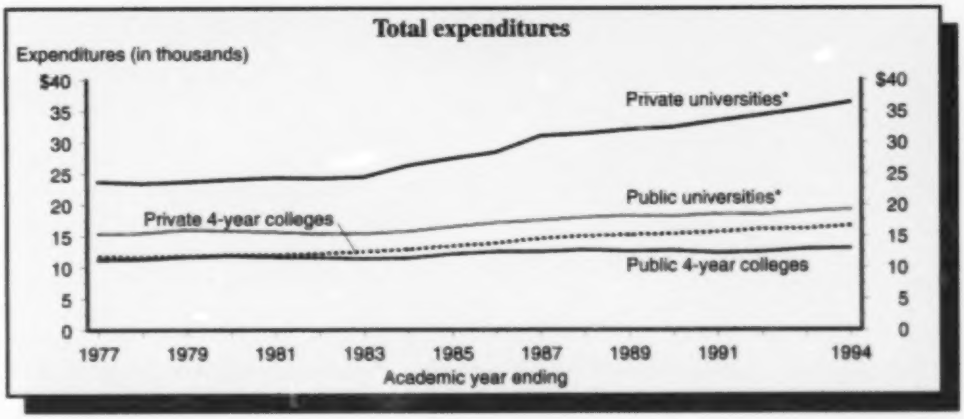
	Universities*						Colleges					
	Private			Public			Private 4-year		Public 4-year		Public 2-year	
Academic year ending	Total	Instruction	Research	Total	Instruction	Research	Total	Instruction	Total	Instruction	Total	Instruction
1977	$23,644	$8,990	$4,979	$15,273	$5,955	$2,803	$11,656	$4,353	$11,137	$5,166	$6,003	$3,066
1978	23,365	8,867	4,855	15,409	6,046	2,860	11,604	4,351	11,233	5,193	6,034	3,054
1979	23,660	8,841	4,901	15,969	6,238	3,023	11,746	4,367	11,592	5,289	6,240	3,131
1980	24,003	9,088	4,927	15,799	6,124	3,080	11,947	4,380	11,721	5,259	6,136	3,086
1981	24,268	9,251	4,808	15,536	5,985	3,055	11,989	4,323	11,591	5,196	5,873	2,973
1982	24,201	9,452	4,581	15,334	5,953	2,953	12,156	4,388	11,546	5,271	5,874	2,989
1983	24,397	9,606	4,359	15,300	5,941	2,935	12,410	4,496	11,267	5,145	5,557	2,827
1984	26,185	10,098	4,643	15,671	6,043	2,996	12,828	4,613	11,384	5,138	5,636	2,864
1985	27,276	10,367	4,948	16,423	6,286	3,190	13,304	4,736	12,029	5,388	6,182	3,108
1986	28,306	10,690	5,232	17,062	6,430	3,357	13,762	4,825	12,424	5,596	6,364	3,176
1987	30,920	11,877	5,703	17,374	6,601	3,471	14,587	5,008	12,429	5,557	6,473	3,212
1988	31,288	11,745	5,856	17,830	6,656	3,672	14,937	5,089	12,671	5,650	6,381	3,140
1989	31,994	12,150	5,894	18,180	6,694	3,809	15,097	5,102	12,485	5,569	6,457	3,201
1990	32,324	12,224	6,022	18,119	6,627	3,870	15,339	5,143	12,588	5,588	6,277	3,125
1991	33,318	12,759	5,925	18,444	6,688	4,008	15,592	5,211	12,239	5,428	6,347	3,164
1992	34,328	13,100	5,983	18,362	6,616	4,036	16,001	5,295	12,409	5,360	6,064	3,050
1993	35,241	13,528	6,291	18,786	6,699	4,194	16,134	5,292	12,849	5,395	6,147	3,080
1994	36,280	13,955	6,405	19,171	6,768	4,288	16,524	5,344	13,007	5,477	6,462	3,189

* Includes doctoral-granting institutions with and without medical schools.

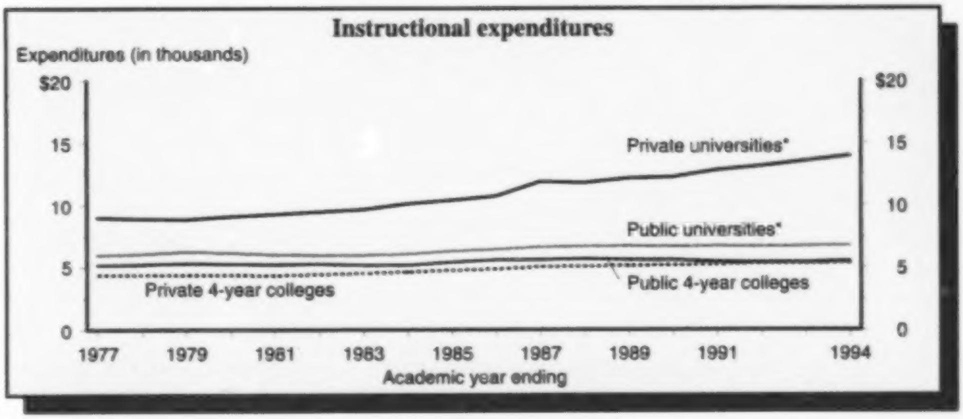
NOTE: The Higher Education Price Index (HEPI) was used to calculate constant dollars and the Consumer Price Index (CPI) was used to forecast the HEPI to July 1996. Data for academic years 1976–77 through 1993–94 include only institutions that provided both enrollment and finance data.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Digest of Educational Statistics, 1996* (based on the IPEDS/HEGIS "Fall Enrollment," "Financial Statistics," and "Institutional Characteristics" surveys).

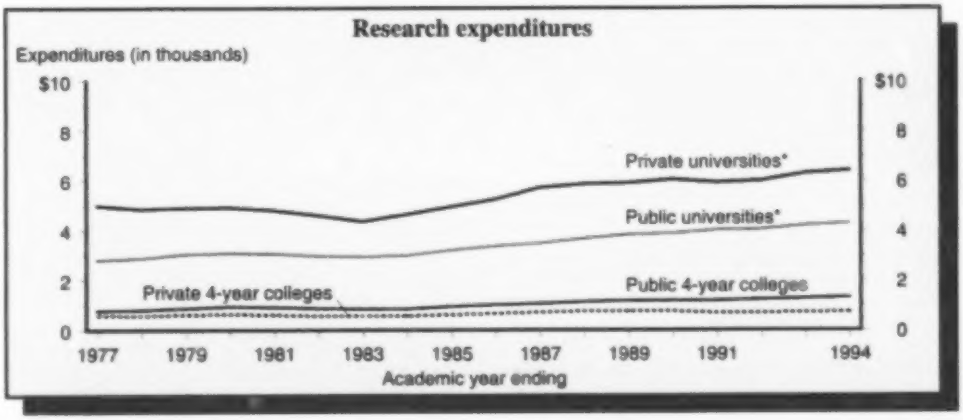
Educational and general expenditures of institutions of higher education per full-time-equivalent (FTE) student (in 1996 constant dollars), by type of institution: Academic years ending 1977–94



Total expenditures



Instructional expenditures



Research expenditures

* Includes doctoral-granting institutions with and without medical schools.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Digest of Educational Statistics, 1996* (based on the IPEDS/HEGIS "Fall Enrollment," "Financial Statistics," and "Institutional Characteristics" surveys).

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International comparisons of expenditures for education

The portion of total financial resources that a country chooses to invest in education is a critical decision that raises many issues for debate, for example, whether and to what extent education costs should be borne by the public or private sector. International comparisons of expenditures for education show considerable variation across countries in the share of national resources devoted to education, the sources (public or private) of funds spent on education, and the levels of education to which funds are allocated.

- In 1993, total expenditures on education institutions in the United States were 4.2 percent of the Gross Domestic Product (GDP) for the primary-secondary grade level, 2.5 percent for higher education, and 6.8 percent for all levels combined. While Canada and France spent a larger fraction for primary-secondary education, of the G-7 countries, only Canada spent a larger fraction than the United States for higher education and for all levels combined.

- In most G-7 countries, expenditures on higher education that came from public sources were more than twice the amount of those that came from private souces. However, in both the United States and Japan, the percentage of GDP spent on higher education that came from private sources (1.2 and 0.6 percent, respectively) was similar in size to the percentage that came from public sources (1.3 and 0.4 percent, respectively). For primary/secondary education, the proportion of GDP that came from private sources was highest in Germany, at 0.9 percent.

- In all of the G-7 countries, expenditures per student were larger for higher education than for primary/secondary education. In the United States and the United Kingdom, the average amount spent per student in higher education was more than twice the amount spent per primary-secondary student, compared to less than 10 percent higher in Italy.

Public and private expenditures on education institutions,[1] by level of education and country: 1993

	As a percentage of GDP					Per student[2]			
	Primary/secondary		Higher education		All levels and sources combined[6]	Constant 1993 U.S dollars[3]		As a percentage of GDP per capita	
G-7 country	Public sources[4]	Private sources[5]	Public sources[4]	Private sources[5]		Primary/ secondary[7]	Higher education	Primary/ secondary[7]	Higher education
Canada	4.3	0.3	2.2	0.4	7.3	—	$11,132	—	57.6
France	4.0	0.3	0.9	0.2	6.1	$4,649	6,033	24.9	32.3
Germany	3.0	0.9	0.9	0.1	5.9	5,290	7,902	28.6	42.8
Italy	3.6	0.0	0.8	0.1	5.1	4,821	5,169	27.2	29.2
Japan	3.0	0.3	0.4	0.6	4.9	4,175	7,556	20.5	37.3
United Kingdom	3.9	—	0.9	0.0	[8]5.0	3,915	8,241	22.6	48.6
United States	3.8	0.4	1.3	1.2	6.8	5,987	14,607	24.4	60.2

— Not available.

[1] Includes all institutions (public and private) with the exception of Germany and Italy, which include only public institutions, and the United Kingdom, which includes public and government-dependent private institutions.

[2] Per-student expenditures were calculated based on full-time-equivalent (FTE) enrollment figures, and expenditures from both public and private sources, with the exception of the United Kingdom, for which private source data were unavailable.

[3] Purchasing Power Parity (PPP) indices were used to convert other currencies to U.S. dollars. Because the fiscal year has a different starting date in different countries, within-country Consumer Price Indices (CPIs) were used to adjust the PPP indices to account for inflation. See the supplemental note to this indicator for further explanation.

[4] Public expenditures are defined as direct public expenditures on education institutions plus public subsidies to households and other private entities for education institutions (e.g., tuition and fees), excluding other public aid to students and households (e.g., subsidies for student living costs).

[5] Private expenditures are defined as private payments from households and other private entities to education institutions, minus any portion derived from public subsidies.

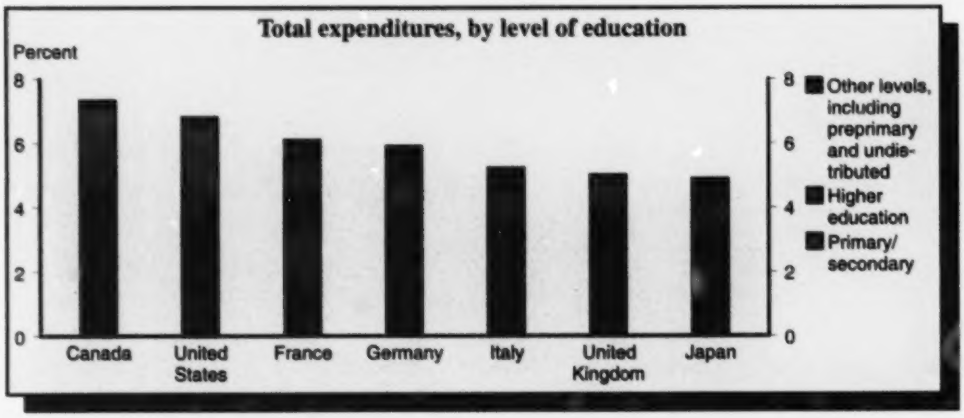
[6] "All levels combined" includes expenditures on preprimary education and funds classified as "undistributed," a classification reserved for enrollments, expenditures, or programs that cannot be unambiguously assigned to International Standard Classification of Education (ISCED) defined levels. Examples of undistributed education can include nongraded special education or recreational nondegree adult education programs.

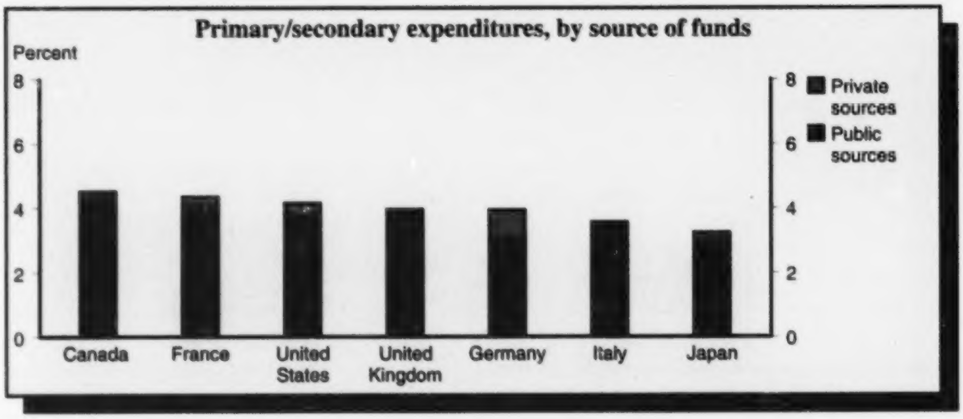
[7] Primary/secondary per-student expenditures were calculated by adding primary and secondary FTE enrollments and by dividing the total FTE into the total expenditures. See the supplemental note to this indicator for further explanation.

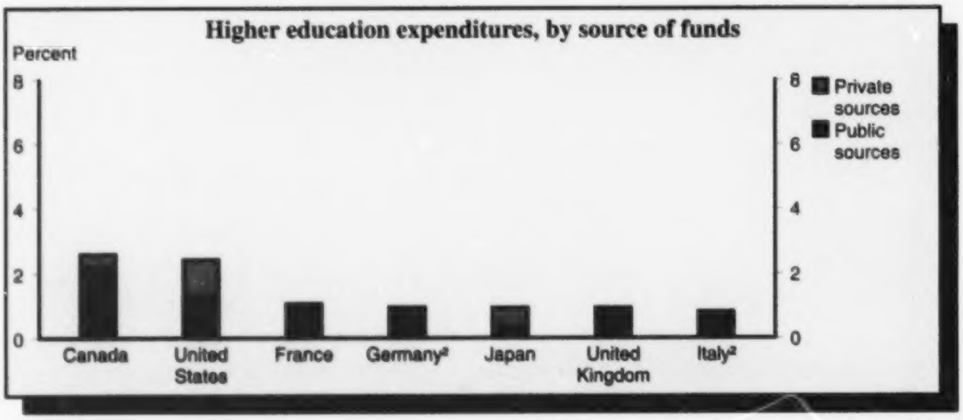
[8] Total expenditures in the United Kingdom do not include primary/secondary expenditures from private sources, for which data were unavailable.

SOURCE: Organization for Economic Co-operation and Development, Center for Educational Research and Innovation, *Education At A Glance: OECD Indicators*, 1996.

Public and private expenditures on education institutions[1] in G-7 countries as a percentage of GDP: 1993







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[1] Includes all institutions (public and private) with the exception of Germany and Italy, which include only public institutions, and the United Kingdom, which includes public and government-dependent private institutions.

[2] Private sources are less than 0.2 percent, and therefore the percentages are not discernable in the graph.

SOURCE: Organization for Economic Co-operation and Development, Center for Educational Research and Innovation, *Education At A Glance: OECD Indicators*, 1996.

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Salaries of teachers

Methods of attracting and retaining quality teachers have long been discussed among education officials. Concerns about such issues have led to reforms designed to increase teacher benefits. These measures include creating new career steps or paths, establishing teaching positions with greater authority and responsibility, instituting merit pay schemes, and experimenting with teachers' salary structures.

- Between 1980 and 1996, the average salary (adjusted for inflation) of all public school teachers increased 19 percent, rising from $32,332 to $38,434 (see supplemental table 56-1). In 1995, the average salary of all bachelor's degree recipients who earned income was 19 percent higher than the average salary of public school teachers ($45,773 compared to $38,456).

- Following a period of decline in the 1970s, public school teachers' average salaries increased continuously throughout the 1980s and into the early 1990s, reaching a peak of $38,830 in 1991. Since then, salaries have decreased slightly (see supplemental table 56-1).

- The average beginning salary (adjusted for inflation) of public school teachers increased 24 percent between 1980 and 1996, rising from $20,292 to $25,167 (see supplemental table 56-1).

- Public school teachers at central city schools with a high percentage of minority students (20 percent or more) had higher average salaries than those teachers at central city schools with a low percentage of minority students (less than 20 percent). Regardless of minority enrollment, public school teachers in urban fringe schools had higher average salaries than their counterparts in central city or rural/small town schools.

Average annual salaries (in 1996 constant dollars) of public elementary and secondary school teachers and individuals with a bachelor's degree or higher: Selected school years ending 1960–96

School year ending	All teachers	Elementary teachers	Secondary teachers	Beginning teachers[1]	Bachelor's degree or higher[1,2]
1960	$26,718	$25,755	$28,222	—	—
1968	34,306	33,312	35,549	—	$46,900
1976	35,708	34,801	36,664	$23,745	44,803
1984	33,871	33,180	34,827	21,561	41,067
1992	38,737	38,072	39,602	25,397	43,816
1994	38,502	37,942	39,418	25,349	47,187
1995	38,456	37,906	39,312	25,185	45,773
1996	38,434	37,916	39,162	25,167	—

— Not available

[1] Salaries of beginning teachers and persons with a bachelor's degree or higher are for the calendar year.

[2] Includes salaries of all individuals aged 25 or older who earned income and had a bachelor's degree or higher, including teachers.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Digest of Education Statistics, 1996*. U.S. Department of Commerce, Bureau of the Census, *Current Population Reports*, Series P-60. American Federation of Teachers, *Survey and Analysis of Salary Trends 1996*, December 1996.

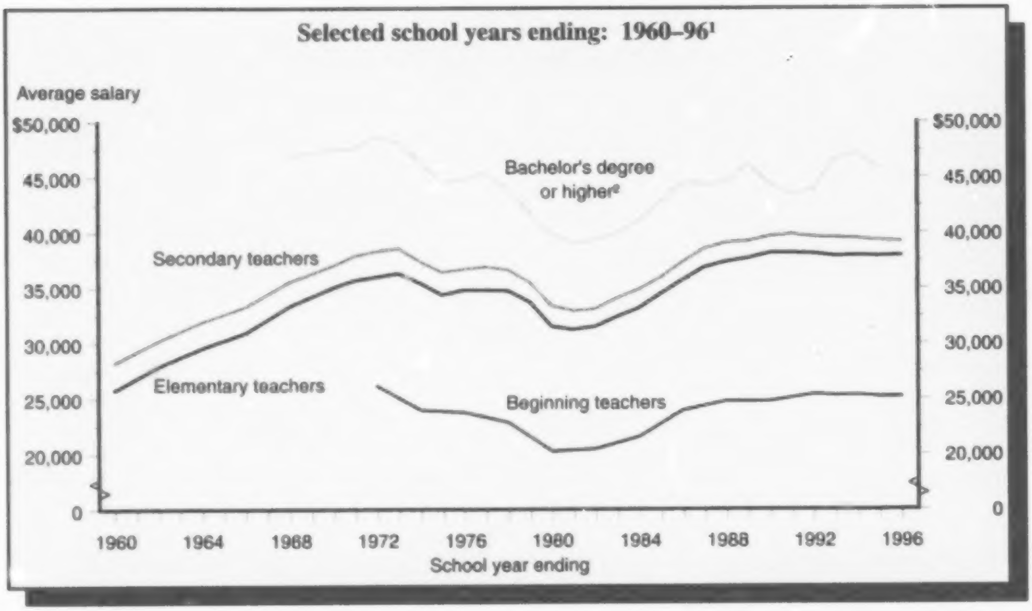
Average compensation (in 1996 constant dollars) received by full-time public school teachers, by urbanicity and percentage of minority students enrolled: Summer 1993 and school year 1993–94

Urbanicity and percentage of minority students enrolled	School earnings*				
	Total school earnings	Base salary	Summer supplemental earnings	Other school compensation	Non-school compensation
Total	**$38,055**	**$36,648**	**$2,250**	**$2,328**	**$5,487**
Central city	38,470	36,965	2,527	2,376	5,896
Less than 20 percent	37,115	35,873	1,910	2,161	5,242
20 percent or more	38,779	37,232	2,628	2,399	6,035
Urban fringe/large town	42,527	41,091	2,258	2,431	5,449
Less than 20 percent	43,249	41,850	1,993	2,482	4,975
20 percent or more	41,578	40,104	2,442	2,374	5,778
Rural/small town	34,365	33,050	1,976	2,225	5,247
Less than 20 percent	35,274	33,921	1,915	2,257	5,391
20 percent or more	32,353	31,078	2,101	2,226	4,944

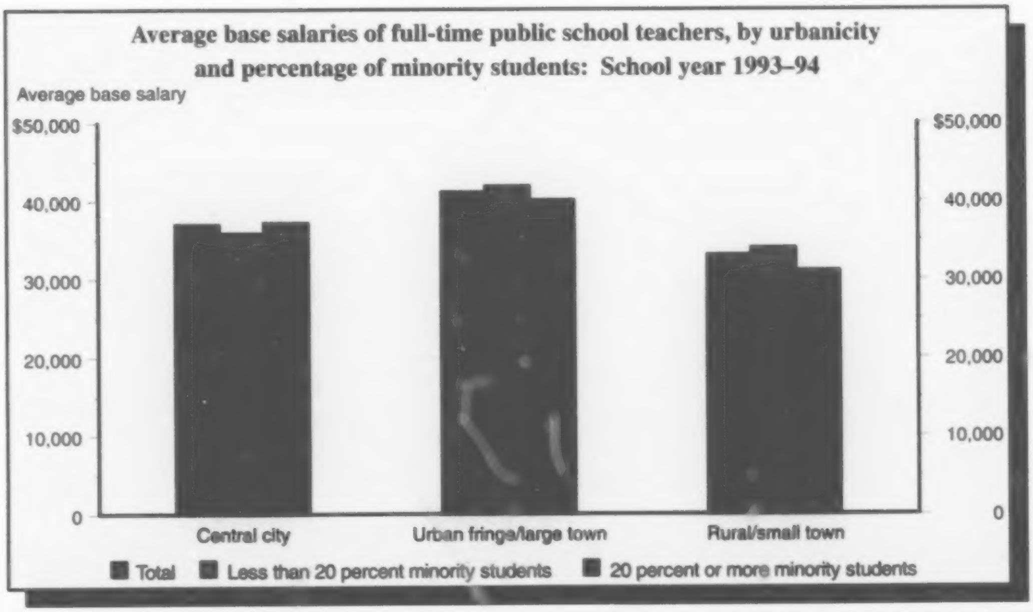
* Detailed school earnings were computed using data only from teachers who reported those earnings; therefore, details do not add to total. Included in "total" and "other school compensation" are other sources of income reported after excluding outside income. Summer compensation was received in 1993. Data were calculated from the Schools and Staffing Survey Teacher Questionnaire.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey, 1993–94 (Teacher Questionnaire).

Average annual salaries (in 1996 constant dollars)



Selected school years ending: 1960–96[1]



Average base salaries of full-time public school teachers, by urbanicity and percentage of minority students: School year 1993–94

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[1] Plotted points for average annual salary for teachers are: even years 1960–68 and all years 1970–96. Plotted points for average beginning salaries for teachers are: even years 1972–90 and all years 1992–96. Plotted points for those with a bachelor's degree or higher are for all years 1968–95.

[2] Includes salaries of all individuals aged 25 or older who earned income and had a bachelor's degree or higher, including teachers.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Digest of Education Statistics, 1996* and Schools and Staffing Survey, 1993–94 (Teacher Questionnaire). U.S. Department of Commerce, Bureau of the Census, *Current Population Reports*, Series P-60. American Federation of Teachers, *Survey and Analysis of Salary Trends 1996*, December 1996.

Education and certification of full-time, secondary mathematics and science teachers

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Concern about the quality of education in the United States has focused interest on teacher qualifications and student exposure to well-qualified teachers, especially in mathematics and science. Educational background is one measure of teachers' qualifications. Whether they had majored or minored or are certified in the fields they teach is an indication of their substantive and academic qualifications in those subjects.

- In school year 1993–94, about 90 percent of public and private secondary students in science classes were taught by teachers who had majored or minored in science at the undergraduate or graduate level. In mathematics classes, 70 to 80 percent of students were taught by teachers who had majored or minored in mathematics.

- Students in mathematics classes in public secondary schools with a high student poverty level (more than 40 percent of students eligible for free or reduced-price lunch) were less likely to be taught by teachers who had majored or minored in mathematics than were students in public schools with a low poverty level (5 percent or less of students eligible for free or reduced-price lunch) (see supplemental table 57-1).

- Secondary students in public schools with high minority enrollment (20 percent or more of students) were less likely to be taught mathematics or science by a teacher who had majored or minored in the class subject than were students at public schools with low minority enrollment (less than 20 percent of students).

- Students in mathematics classes at large public schools (750 or more students) were more likely to be taught by a teacher who had majored or minored in mathematics than students at small public schools (less than 150 students). Students in science classes at large and small public schools had similar chances of being taught by a teacher who had majored or minored in science (90 and 86 percent, respectively) (see supplemental table 57-2).

Percentage of secondary mathematics and science students taught by teachers with selected qualifications, by control of school, percentage of minority enrollment, and class subject: School year 1993–94

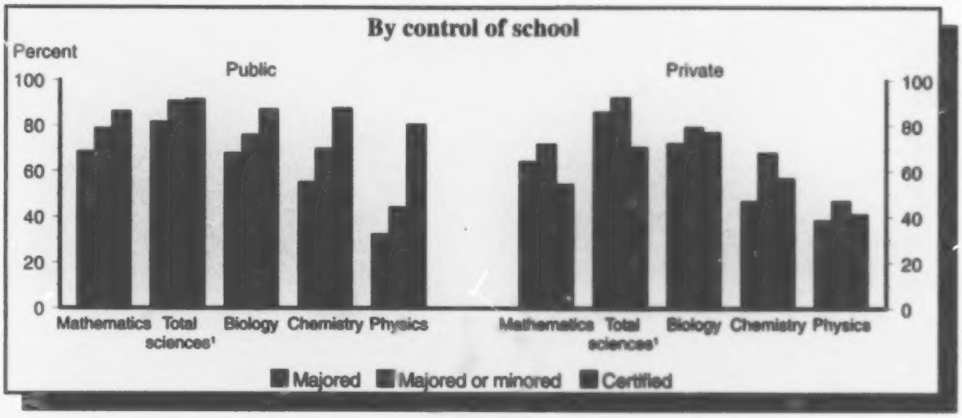
	Public			Private		
Class subject	Total	Less than 20 percent minority students	20 percent or more minority students	Total	Less than 20 percent minority students	20 percent or more minority students
			Majored in class subject			
Mathematics	68.3	73.0	63.3	63.8	64.9	61.7
Science*	81.1	84.2	77.5	85.4	86.3	83.5
Biology	67.4	70.0	64.3	71.7	67.3	81.5
Chemistry	54.7	54.6	54.9	46.5	48.4	43.6
Physics	31.8	29.7	33.9	38.0	38.6	—
			Majored or minored in class subject			
Mathematics	78.3	81.3	75.1	71.4	73.2	68.2
Science*	90.3	91.9	88.3	91.8	93.0	89.2
Biology	75.6	75.6	75.6	78.9	77.8	81.5
Chemistry	69.6	69.0	70.3	67.7	61.0	78.2
Physics	43.8	41.7	45.9	46.6	47.4	—
			Certified in class subject			
Mathematics	85.8	88.6	82.7	53.6	57.8	45.8
Science*	91.1	92.6	89.4	70.1	79.3	49.7
Biology	86.8	89.4	83.6	76.6	77.9	73.7
Chemistry	87.4	87.4	87.4	56.4	76.9	24.2
Physics	80.1	79.3	80.8	40.8	49.0	—

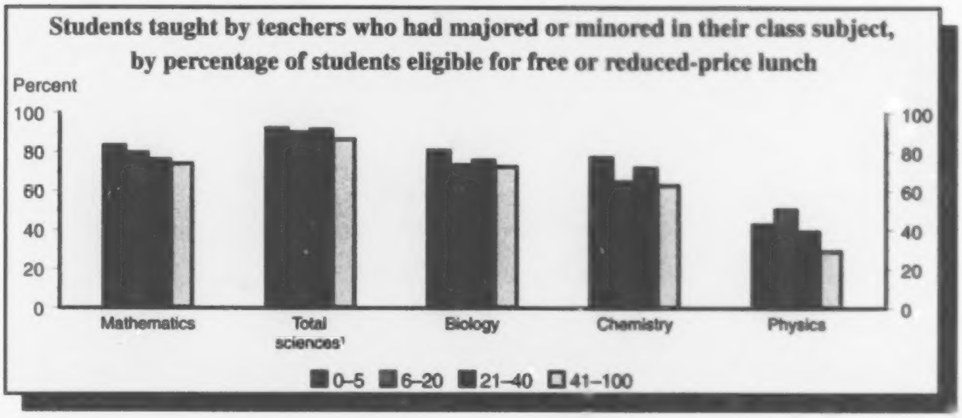
— Too few sample observations for a reliable estimate.

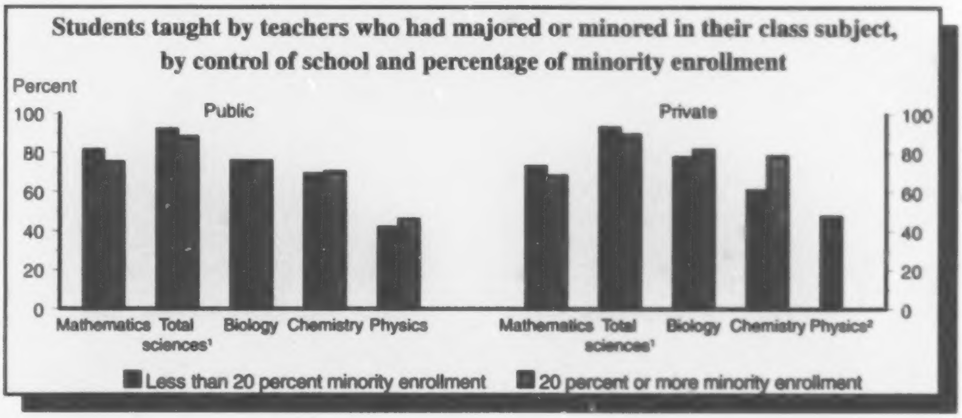
* It is easier to have majored, minored, or to have become certified in "science" than in a specific discipline, such as biology, because a teacher from any scientific field may qualify in "science," whereas qualifying in a specific discipline requires a match in class subject matter. See the supplemental note to this indicator for further discussion.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey, 1993–94 (Teacher Questionnaire).

Percentage of secondary mathematics and science students taught by teachers with selected qualifications: School year 1993–94


By control of school


Students taught by teachers who had majored or minored in their class subject, by percentage of students eligible for free or reduced-price lunch


Students taught by teachers who had majored or minored in their class subject, by control of school and percentage of minority enrollment

[1] It is easier to have majored, minored, or to have become certified in "science" than in a specific discipline, such as biology, because a teacher from any scientific field may qualify in "science," whereas qualifying in a specific discipline requires a match in class subject matter.

[2] Too few sample observations for a reliable estimate of the number of physics students in schools with 20 percent or more minority enrollment.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey, 1993–94 (Teacher Questionnaire).

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Attrition among full-time public and private school teachers

Teacher attrition is the largest single factor determining the demand for additional teachers in the Nation's schools. Patterns of attrition vary considerably by the age of teachers and the destination of those leaving. While the rate of teacher attrition is not as high today as it was in the 1960s and 1970s, it is still important to study attrition patterns and their implications for the Nation's future need for teachers as the current teacher work force ages.

- Six percent of full-time public school teachers and 10 percent of full-time private school teachers who taught during the 1993–94 school year left teaching before the 1994–95 school year. Attrition rates between the 1993–94 and 1994–95 school years for both full-time public and private school teachers were similar to those between the 1987–88 and 1988–89 school years.

- For public school teachers who left teaching between the 1993–94 and 1994–95 school years, the destination of leavers reported most was retirement. In fact, during that period, 3 out of 10 public school teachers who left teaching did so to retire.

- For private school teachers who left teaching between the 1993–94 and 1994–95 school years, the destination of leavers reported most was to pursue a career outside of education. For example, between the 1993–94 and 1994–95 school years, 33 percent of private school teachers left teaching to pursue a career outside of education.

- Attrition was highest among older teachers (those aged 60 and older) and among those aged 25–29. Among young teachers (those younger than 25) attrition was far higher in private than in public schools (see supplemental table 58-1).

Change in teaching status of full-time teachers between the 1987-88 and 1988-89, 1990-91 and 1991-92, and 1993-94 and 1994-95 school years, and destination of leavers, by control of school

Teaching status and destination of leavers	Public			Private		
	Between 1987-88 and 1988-89	Between 1990-91 and 1991-92	Between 1993-94 and 1994-95	Between 1987-88 and 1988-89	Between 1990-91 and 1991-92	Between 1993-94 and 1994-95
Teaching status						
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Left teaching	5.2	5.0	6.1	11.5	10.1	10.2
Moved to another school	7.6	6.7	6.7	10.1	6.8	6.0
Teaching at same school	87.2	88.3	87.2	78.4	83.1	83.8
Destination of leavers						
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Working in education	15.6	14.1	14.0	10.3	6.8	9.7
Working outside education	17.0	13.4	21.0	37.6	34.8	33.4
Attending college	5.5	6.7	2.5	6.9	12.1	9.1
Homemaking/child rearing	27.4	18.7	17.3	28.8	19.7	20.3
Retired	27.3	34.9	30.8	5.2	8.3	8.9
Disabled	0.8	0.8	1.9	—	0.4	0.9
Other	6.6	11.3	12.4	10.7	18.0	17.7

— Too few sample observations for a reliable estimate.

NOTE: Details may not add to totals due to rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey, 1987-88, 1990-91, and 1993-94, and the Teacher Follow-up Survey, 1988-89, 1991-92, and 1994-95.

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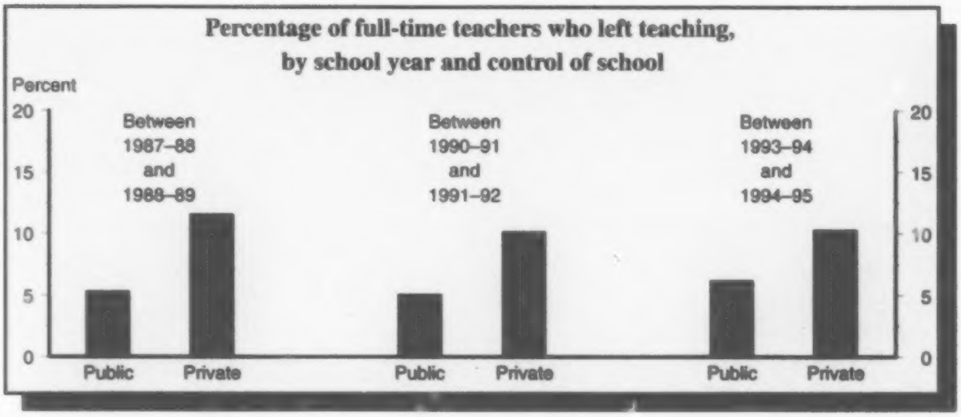
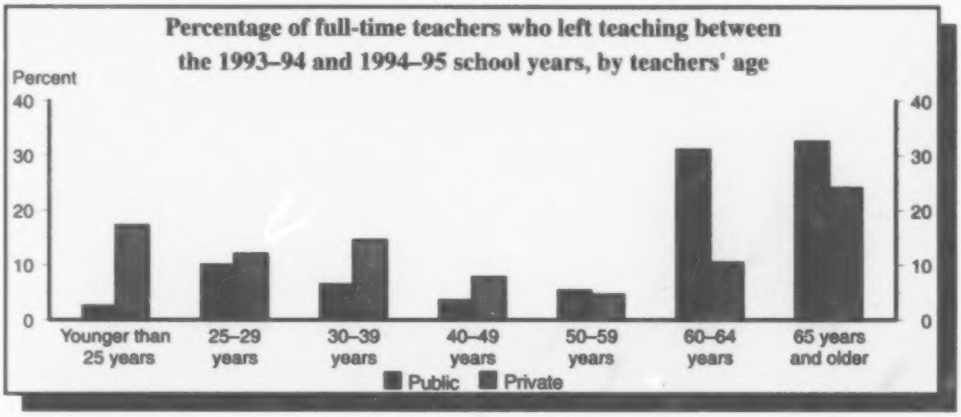
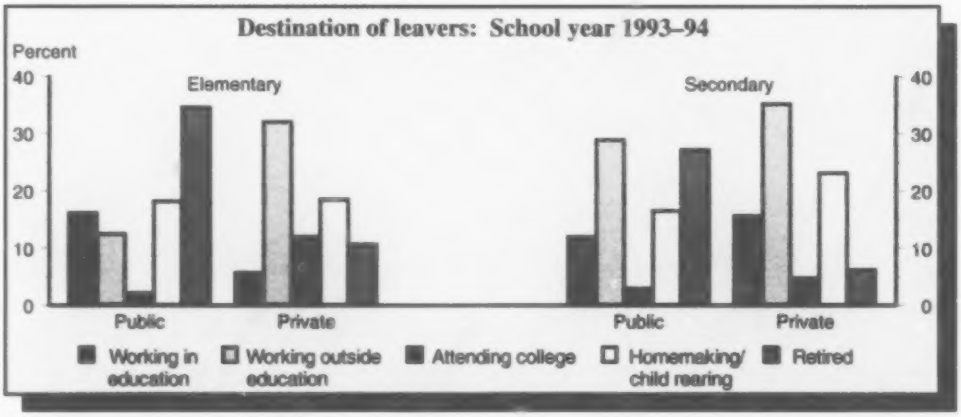
Full-time teachers who left teaching


Percentage of full-time teachers who left teaching, by school year and control of school


Percentage of full-time teachers who left teaching between the 1993–94 and 1994–95 school years, by teachers' age


Destination of leavers: School year 1993–94

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey, 1987-88, 1990-91, and 1993-94, and the Teacher Follow-up Survey, 1988-89, 1991-92, and 1994-95.

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Research output of postsecondary faculty

In many postsecondary institutions, faculty members are expected to produce and publish original research such as journal articles, books, or reports. This research responsibility is usually in addition to their teaching responsibilities, meaning that faculty members must strike a balance between research and teaching. On the one hand, research activities can be an asset to both the institution and students, bringing together the creation and the transmittal of knowledge. On the other hand, research activities may decrease the amount of time faculty have to prepare lectures and work individually with students.

- In both the fall of 1987 and the fall of 1992, the average research output of full-time postsecondary faculty for the previous 2 years was similar, except for a slight decrease in the number of articles written. In the fall of 1992, faculty produced about three articles or creative works and about four presentations or exhibits during the previous 2 years.

- In general, in the fall of 1992, faculty in agriculture/home economics produced more articles or creative works (7.3), faculty in the social sciences produced more books (0.9), and faculty in the fine arts produced more presentations or exhibits (17.0) during the previous 2 years than faculty members in other fields.

- In the fall of 1992, postsecondary faculty at research institutions produced, on average, more articles or creative works during the previous 2 years than faculty at other types of higher education institutions. Faculty at doctoral institutions produced more articles than all other faculty at other types of higher education institutions except for research institutions.

- In the fall of 1992, tenured postsecondary faculty produced on average more articles or creative works, books or monographs, or other works during the previous 2 years than nontenured postsecondary faculty (see supplemental table 59-1).

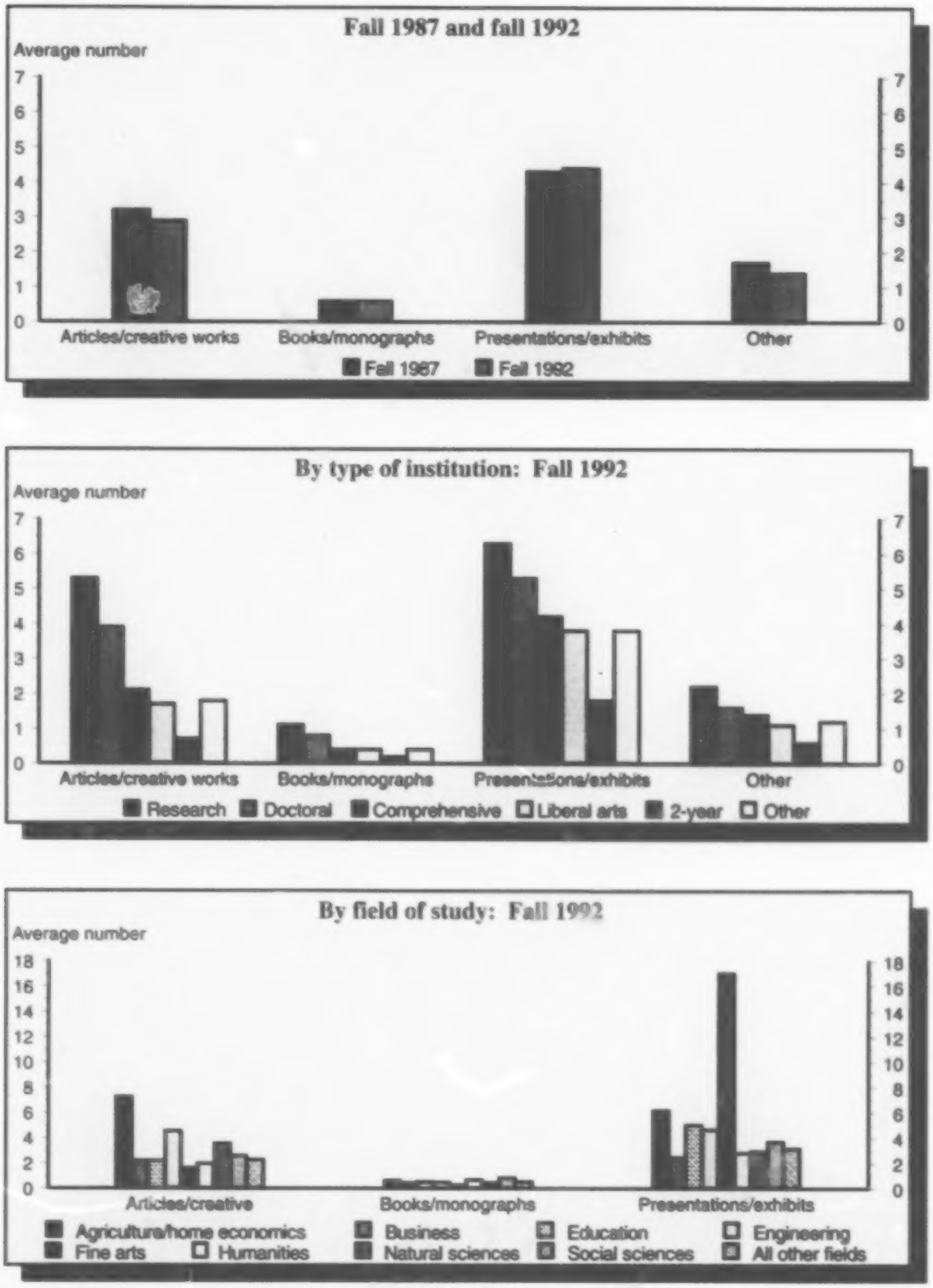
Average research production of full-time postsecondary faculty during the previous 2 years, by academic discipline and type of institution: Fall 1987 and fall 1992

	Fall 1987				Fall 1992			
Academic discipline and type of institution	Articles/ creative works	Books/ mono-graphs	Present-ations/ exhibits	Other	Articles/ creative works	Books/ mono-graphs	Present-ations/ exhibits	Other
Total	**3.2**	**0.6**	**4.3**	**1.7**	**2.9**	**0.6**	**4.4**	**1.4**
Academic discipline								
Agriculture/home economics	5.5	0.5	4.4	2.0	7.3	0.6	6.2	2.8
Business	1.7	0.3	1.7	1.0	2.2	0.4	2.4	1.4
Education	2.7	0.5	4.4	1.2	2.2	0.5	5.0	1.4
Engineering	3.5	0.5	3.4	2.7	4.5	0.5	4.7	3.0
Fine arts	2.0	0.2	14.7	1.1	1.6	0.3	17.0	0.9
Humanities	2.7	0.7	2.8	1.7	2.0	0.7	2.8	1.2
Natural sciences	3.3	0.4	2.4	2.2	3.5	0.5	2.9	1.4
Social sciences	3.0	1.0	3.3	1.7	2.6	0.9	3.7	1.8
All other fields	2.6	0.5	3.4	1.5	2.3	0.6	3.2	1.3
Type of institution								
Research	5.2	1.2	5.0	2.1	5.3	1.1	6.3	2.2
Doctoral	4.2	0.9	5.5	1.8	3.9	0.8	5.3	1.6
Comprehensive	2.5	0.4	4.5	1.7	2.1	0.4	4.2	1.4
Liberal arts	1.6	0.4	3.3	1.1	1.7	0.4	3.8	1.1
2-year	1.3	0.2	2.6	1.2	0.7	0.2	1.8	0.6
Other	1.8	0.4	4.1	1.4	1.8	0.4	3.8	1.2

NOTE: Included in the totals but not shown separately are health sciences faculty. See the supplemental note to *Indicator 43* for a description of research production measures.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Study of Postsecondary Faculty, 1988 and 1993.

Average research production of full-time postsecondary faculty during the previous 2 years



NOTE: See the supplemental note to *Indicator 43* for a description of research production measures.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Study of Postsecondary Faculty, 1988 and 1993.

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Nontenure-track faculty

> *Faculty in higher education are either tenured, on tenure track, or not on tenure track (those not eligible for tenure). Institutions rely on nontenure-track faculty to respond flexibly to fluctuating enrollments, to fill temporary vacancies, to teach specialized courses, and to reduce costs. While many are accomplished teachers, nontenure-track faculty may lack the training and record of scholarship required for the tenure track. Nontenure-track faculty face job uncertainty, often play no role in academic governance, and may lack job benefits provided to tenure-track faculty. Excessive dependence on nontenure-track faculty could undermine faculty morale and quality of teaching at a college or university.*

- The Nation's higher education institutions employed nearly as many nontenure-track as tenure-track faculty in the fall of 1992 (45 and 48 percent, respectively). Another 7 percent of those teaching courses worked in institutions that lacked tenure systems.

- Among institutions with a tenure system, research universities had the lowest percentage of nontenure-track faculty (29 percent), while 2-year colleges had the highest (67 percent).

- Sixty percent of female faculty at institutions with tenure systems were in nontenure- track positions, while 42 percent of male faculty held such positions. This gender difference is only partly explained by females being younger: It also appeared in each age category (see supplemental table 60-1). Moreover, among full-time faculty, females were about twice as likely to be nontenure-track.

- At 4-year institutions, 34 percent of undergraduate courses and 26 percent of graduate courses were taught by nontenure-track faculty (see supplemental table 60-2). Four-year private institutions offered proportionally more courses (both undergraduate and graduate) taught by nontenure-track faculty than did 4-year public institutions.

Percentage distribution of faculty's tenure status, by level, control, and type of institution, and faculty members' employment status: Fall 1992

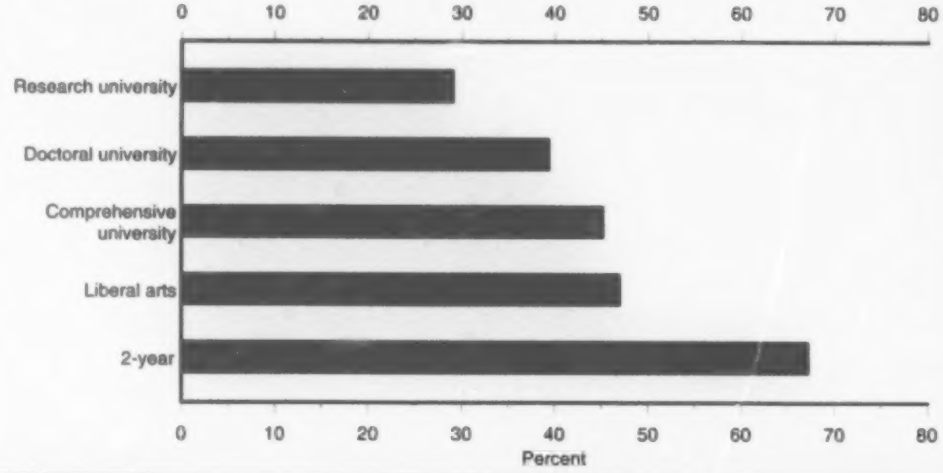
	All institutions			Institutions with tenure systems	
Institutional characteristics and faculty employment status	Tenure-track	Nontenure-track	No tenure system at institution	Tenure-track	Nontenure-track
Total	**47.6**	**45.3**	**7.1**	**51.3**	**48.7**
4-year institutions	57.5	38.5	4.0	59.9	40.1
Public	65.6	33.6	0.8	66.2	33.8
Private	46.1	45.4	8.5	50.4	49.6
2-year public	29.2	58.7	12.1	33.3	66.7
Type of institution					
Research university	70.6	28.9	0.5	70.9	29.1
Doctoral university	60.2	39.1	0.7	60.6	39.4
Comprehensive university	53.6	44.3	2.1	54.8	45.2
Liberal arts	48.1	42.7	9.1	53.0	47.0
2-year	28.5	58.4	13.0	32.8	67.2
Other	40.8	35.4	23.9	53.6	46.4
Employment status					
Part-time	4.2	90.6	5.2	4.5	95.5
Full-time	78.9	12.7	8.4	86.2	13.8

NOTE: Included here are faculty and staff who taught at least one course for credit in fall 1992 (a small percentage did not have faculty status). Faculty with clinical appointments were excluded.

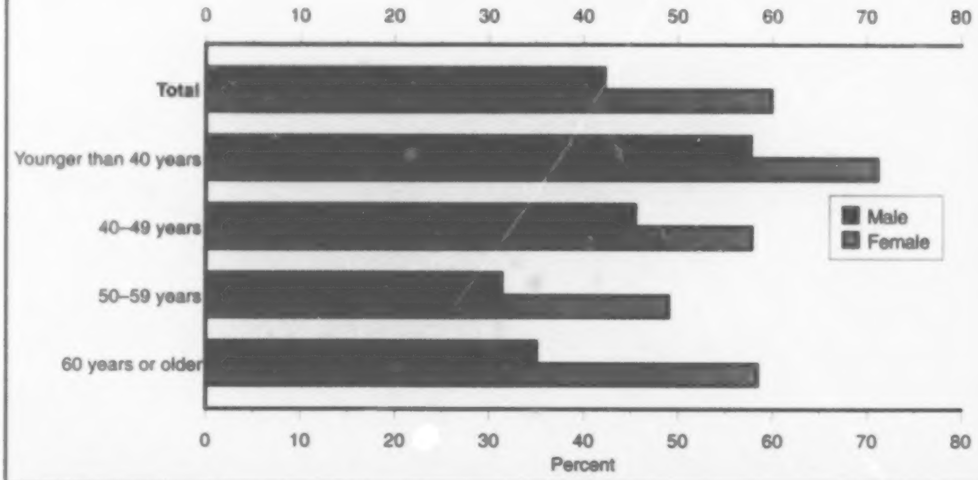
SOURCE: U.S. Department of Education, National Center for Education Statistics, National Study of Postsecondary Faculty, 1993.

Nontenure-track faculty: Fall 1992

Percentage of faculty at institutions with tenure systems who were not eligible for tenure, by type of institution: Fall 1992



Percentage of faculty at institutions with tenure systems who were not eligible for tenure, by age and sex: Fall 1992



SOURCE: U.S. Department of Education, National Center for Education Statistics, National Study of Postsecondary Faculty, 1993.

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Supplemental Tables and Notes

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Listed below are all of the supplemental tables and notes prepared for The Condition of Education 1997. *Due to space limitations, all of the tables listed are not included in the printed volume; only those shown in bold are included here. To receive the complete set of tables (and any associated standard error tables), please fill out the reader's request card and send it to the address shown or look up the electronic version of* The Condition of Education 1997 *on the NCES Internet site at http://www.ed.gov/NCES/ce/.*

Table 1-1	**Percentage of 3-, 4-, and 5-year-olds enrolled in center-based programs and kindergarten, by selected student characteristics: 1995**
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Table 3-1	**Percentage of first- and second-graders aged 6–8 whose parents reported they had behavioral and/or academic problems in school, by selected characteristics: 1991 and 1995**
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Table 6-1	**Percentage of school library media centers that offered selected services and equipment, and library media center expenditures, by control and level of school: School year 1993–94**
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Table 7-1 **Event dropout rates for those in grades 10–12, aged 15–24, by parents' highest education level: October 1990–95**

Table 7-2 Event dropout rates for those in grades 10–12, aged 15–24, by sex, race/ethnicity, and family income: October 1972–95

Note **Recent school dropouts**

Table 8-1 **Percentage of high school graduates aged 16–24 who were enrolled in college the October following graduation, by parents' highest education level: 1990–95**

Table 8-2 **Percentage of high school graduates aged 16–24 who were enrolled in college the October following graduation, by sex and type of institution: 1972–95**

Table 8-3 Percentage of high school graduates aged 16–24 who were enrolled in college the October following graduation, by race/ethnicity and type of institution: 1972–95

Table 8-4 Percentage of high school graduates aged 16–24 who were enrolled in college the October following graduation, by type of institution, family income, and race/ethnicity: 1972–95

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	3-year-olds			4-year-olds			5-year-olds		
Student characteristics	Total	Center-based programs	Kindergarten	Total	Center-based programs	Kindergarten	Total	Center-based programs	Kindergarten
Total	**37.4**	**36.9**	**0.5**	**60.9**	**59.3**	**1.7**	**90.3**	**16.8**	**73.5**
Sex									
Male	35.8	35.6	0.3	59.9	58.3	1.6	88.7	17.7	71.0
Female	38.9	38.3	0.6	61.5	59.8	1.7	92.1	15.8	76.3
Race/ethnicity									
White	40.2	40.0	0.3	60.8	59.5	1.3	88.6	17.8	70.8
Black	41.1	40.2	0.9	68.2	66.2	2.0	93.7	17.2	76.5
Hispanic	21.2	20.0	1.2	49.0	45.5	3.5	93.4	13.3	80.1
Household income									
$10,000 or less	26.2	25.8	0.4	54.3	53.6	0.7	90.9	16.7	74.2
10,001-20,000	27.0	27.0	0.0	52.3	50.1	2.3	89.7	12.7	77.0
20,001-35,000	27.7	27.3	0.4	49.7	48.5	1.2	90.7	15.4	75.4
35,001-50,000	38.1	36.8	1.3	59.5	56.5	2.9	88.5	16.6	71.9
50,001 or more	61.2	61.1	0.1	80.7	79.2	1.5	90.9	20.2	70.6
Parents' highest education level									
Less than high school diploma	16.0	14.6	1.3	42.4	41.6	0.8	92.5	11.8	80.7
High school diploma or GED	26.3	25.7	0.6	51.1	50.0	1.1	89.2	14.4	74.8
Some college/vocational/technical	35.6	35.4	0.3	63.3	61.4	1.9	90.2	16.2	74.0
Bachelor's degree	51.7	51.6	0.2	70.7	68.4	2.2	91.6	19.0	72.7
Graduate/professional school	60.8	60.4	0.4	77.9	75.6	2.3	89.8	24.4	65.3
Family structure									
Two biological or adoptive parents	38.6	38.0	0.6	61.3	59.5	1.7	88.8	17.6	71.2
One biological or adoptive parent	36.9	36.9	0.0	63.0	61.6	1.4	94.0	15.8	78.2
One biological and one step parent	23.1	20.4	2.7	46.9	43.9	3.0	89.4	12.2	77.2
Other relatives	20.8	20.8	0.0	61.3	61.3	0.0	88.0	20.8	67.3
Mother's first language									
English	39.5	39.1	0.4	62.2	61.0	1.2	89.9	17.3	72.6
Spanish	12.3	11.6	0.7	47.3	42.1	5.3	93.0	10.6	82.4
Other	43.2	40.2	3.0	61.5	56.2	5.3	88.8	20.9	67.9
Poverty status[2]									
Poor	24.2	23.9	0.3	51.7	50.9	0.8	90.1	15.7	74.4
Non-poor	42.2	41.7	0.5	63.9	61.9	1.9	90.3	17.2	73.1
Mother's employment status									
35 hours or more per week	43.4	42.7	0.7	63.3	61.0	2.2	90.3	16.5	73.8
Less than 35 hours per week	39.9	39.9	0.0	70.9	68.9	2.0	91.4	20.0	71.4
Looking for work	34.7	33.3	1.4	56.3	55.3	1.0	86.0	16.6	69.4
Not in labor force	30.8	30.4	0.4	53.6	52.5	1.1	90.0	15.6	74.4

[1] Center-based programs include nursery, prekindergarten, and Head Start programs.

[2] The poverty measure presented in this analysis was developed by combining information about household composition and household income. See the supplemental note to this indicator for further discussion.

NOTE: Included in the total but not shown separately are children from other racial/ethnic groups and types of family structures. This analysis includes children aged 3-5 who were not enrolled in first grade. Age is as of December 31, 1994.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey (NHES), 1995 (Early Childhood Program Participation File).

Table 1-2 Percentage of 3-, 4-, and 5-year-olds enrolled in center-based programs[1] and kindergarten, by selected student characteristics: 1993

	3-year-olds			4-year-olds			5-year-olds		
Student characteristics	Total	Center-based programs	Kindergarten	Total	Center-based programs	Kindergarten	Total	Center-based programs	Kindergarten
Total	**34.1**	**33.8**	**0.3**	**55.3**	**52.8**	**2.5**	**90.0**	**15.8**	**74.1**
Sex									
Male	32.3	32.0	0.3	53.6	52.1	1.5	89.9	17.4	72.5
Female	36.0	35.6	0.4	57.1	53.6	3.5	90.0	14.1	75.9
Race/ethnicity									
White	33.7	33.7	0.0	53.7	51.7	2.0	88.9	18.0	70.9
Black	41.9	39.6	2.3	62.9	58.5	4.5	93.2	12.4	80.8
Hispanic	27.2	27.2	0.0	48.9	46.8	2.1	91.4	12.0	79.4
Household income									
$10,000 or less	32.7	31.9	0.8	52.6	49.6	3.0	89.2	12.8	76.5
10,001-20,000	21.6	20.7	1.0	47.2	45.2	2.0	90.4	11.4	79.0
20,001-35,000	22.2	22.2	0.0	47.8	46.1	1.7	86.8	17.3	69.5
35,001-50,000	37.9	37.9	0.0	57.2	54.8	2.4	90.6	16.4	74.2
50,001 or more	58.7	58.6	0.1	73.2	70.0	3.2	93.7	20.4	73.3
Parents' highest education level									
Less than high school diploma	17.1	17.1	0.0	42.8	40.2	2.6	79.9	14.7	65.2
High school diploma or GED	23.0	22.1	0.9	43.2	41.6	1.7	89.0	14.7	74.4
Some college/vocational/technical	35.9	35.9	0.1	61.1	58.2	2.9	91.1	12.5	78.6
Bachelor's degree	41.1	41.1	0.0	64.1	60.9	3.1	92.5	19.4	73.1
Graduate/professional school	61.9	61.9	0.0	73.3	70.6	2.7	94.3	24.8	69.5
Family structure									
Two biological or adoptive parents	34.4	34.4	[3]0.0	55.1	52.8	2.3	89.1	16.4	72.7
One biological or adoptive parent	33.8	33.0	0.8	57.2	53.9	3.3	92.1	13.6	78.6
One biological and one step parent	32.7	32.7	0.0	49.5	48.6	0.9	87.3	13.5	73.8
Other relatives	34.8	28.7	6.1	52.2	51.1	1.1	92.6	27.4	65.2
Mother's first language									
English	35.1	34.7	0.4	55.5	53.2	2.3	89.9	16.5	73.5
Spanish	22.9	22.9	0.0	49.0	45.9	3.1	90.4	13.7	76.8
Other	35.8	35.8	0.0	66.8	63.7	3.1	89.4	2.4	86.9
Poverty status[2]									
Poor	28.8	27.6	1.3	49.4	46.9	2.5	88.3	11.9	76.5
Non-poor	35.6	35.5	0.1	57.3	54.9	2.4	90.6	17.3	73.3
Mother's employment status									
35 hours or more per week	39.2	38.2	0.9	58.3	55.8	2.5	93.6	16.0	77.6
Less than 35 hours per week	37.7	37.7	0.0	62.4	60.6	1.8	88.3	16.3	72.0
Looking for work	28.8	28.8	0.0	56.0	50.5	5.4	85.9	15.0	70.9
Not in labor force	29.3	29.2	0.1	49.7	47.6	2.1	88.0	15.3	72.7

[1] Center-based programs include nursery, prekindergarten, and Head Start programs.

[2] The poverty measure presented in this analysis was developed by combining information about household composition and household income. See the supplemental note to this indicator for further discussion.

[3] Percentages less than 0.05 are rounded to 0.0.

NOTE: Included in the total but not shown separately are children from other racial/ethnic groups and types of family structures. This analysis includes children aged 3-5 who were not enrolled in first grade. Age is as of December 31, 1992.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey (NHES), 1993 (School Readiness File).

Note to Indicator 1: Preprimary enrollment rates

Age of the child

For this analysis, the age of the child was calculated as of December 31, 1990 for 1991 data; as of December 31, 1992 for 1993 data; and as of December 31, 1994 for 1995 data.

Enrollment rates

The numerator used to calculate the enrollment rates for this analysis was the number of 3-, 4-, and 5-year-olds who were enrolled in center-based programs or kindergarten as of December 31, 1990, 1992, and 1994. The denominator used was the total number of children aged 3, 4, and 5 as of December 31, 1990, 1992, and 1994. Children who were enrolled in first grade or higher or who were in the "ungraded" category were excluded from this analysis.

Race/ethnicity

A child's race/ethnicity was determined by the composite of the National Household Education Survey (NHES) variables "race" and "Hispanic." If the child's ethnicity was Hispanic, he or she was classified as Hispanic, regardless of whether his or her race was classified as white, black, or other. Children of "other" race/ethnicities were included in the totals but were not shown separately in this analysis.

Parents' highest education level

"Parents' highest education level" is defined as the highest level of education of the child's parents or nonparent guardians who resided in the household. It was based on the highest education level of the mother or female guardian and the highest education level of the father or male guardian. If only one parent resided in the household, that parent's highest education level was used.

Poverty measure

The poverty measure used in this analysis was developed by combining information about household composition and household income. Household composition is the count of family members based on the relationship among the household members. The number of family members is the number of persons in the immediate family of the child (e.g., parents, siblings, and the child him/herself). If the child had no parents in the household, the total number of household members was used.

Household income was also used as part of the poverty measure. NHES collects data on household income in increments. Information on the actual household income, which was available for about 7 percent of the population, was also used. Because exact household income was not available in most cases, the measure is an approximation. Households were categorized as "poor" if they met one of the following conditions:

- two family members and the household income was $5,000 or less;
- two family members and the actual household income was less than $10,000;
- three family members and the household income was $10,000 or less;
- three family members and the actual household income was less than $12,000;
- four or five family members and the household income was $15,000 or less;
- five family members and the actual household income was less than $18,000;
- six or seven family members and the household income was $20,000 or less;
- seven family members and the actual household income was less than $23,000;
- eight family members and the household income was $25,000 or less; or
- nine or more family members and the household income was $30,000 or less.

This information was available in 1993 and 1995 only.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey (NHES), 1991 (Early Childhood Education File), 1993 (School Readiness File), and 1995 (Early Childhood Program Participation File).

Table 2-1 Percentage of children aged 3–5 who participated in various literacy activities with a parent or family member, by selected characteristics: 1991 and 1995

	Read to three or more times in the past week		Told a story at least once in the past week		Visited a library in the past month	
Selected characteristics	1991	1995	1991	1995	1991	1995
Total	**71.4**	**83.1**	**72.0**	**81.4**	**36.6**	**41.2**
Child's age[1]						
Age 3	72.7	83.1	74.3	81.5	31.2	34.9
Age 4	71.9	84.4	72.3	81.5	37.4	42.2
Age 5	69.6	81.7	69.5	81.0	41.3	46.6
School enrollment status and level						
Not enrolled	68.8	81.5	72.3	80.3	30.5	32.0
Center-based programs[2]	75.2	85.8	74.1	82.7	41.0	46.3
Kindergarten	71.1	81.3	68.8	81.0	41.7	47.3
Race/ethnicity						
White	77.7	89.0	73.8	83.9	40.7	45.1
Black	59.0	73.7	66.0	74.4	27.8	34.1
Hispanic	53.0	61.5	68.4	75.1	24.5	28.0
Urbanicity						
Urbanized area	(3)	81.5	(3)	80.4	(3)	42.0
Not an urbanized area	(3)	85.0	(3)	83.0	(3)	43.5
Rural	(3)	86.4	(3)	83.1	(3)	37.9
Household income						
$10,000 or less	(3)	73.8	(3)	76.2	(3)	28.4
10,001-20,000	(3)	76.0	(3)	78.0	(3)	30.8
20,001-30,000	(3)	82.3	(3)	82.1	(3)	40.7
30,001-40,000	(3)	84.1	(3)	78.8	(3)	43.5
40,001-50,000	(3)	86.6	(3)	85.3	(3)	42.6
50,001 or more	(3)	92.1	(3)	86.1	(3)	54.2
Parents' highest education level						
Less than high school diploma	53.8	64.4	67.4	71.9	18.3	18.3
High school diploma or GED	63.5	77.9	68.2	77.6	26.0	31.5
Some college/vocational/technical	74.0	85.3	74.2	82.9	38.5	40.9
Bachelor's degree	82.1	89.7	74.7	85.0	52.0	53.5
Graduate/professional school	88.3	94.0	78.4	88.2	59.1	62.8
Family structure						
Two biological or adoptive parents	—	85.6	—	82.8	—	45.9
One biological or adoptive parent	—	77.8	—	78.6	—	32.4
One biological and one step parent	—	75.1	—	79.1	—	32.2
Other relatives	—	85.5	—	79.1	—	15.8

— Not available

[1] Age as of December 31, 1990 for 1991 data, and as of December 31, 1994 for 1995 data.

[2] Center-based programs include nursery, prekindergarten, and Head Start programs.

[3] Urbanicity and family income data for 1991 were not comparable to data for 1995.

NOTE: This analysis includes children aged 3-5 who were not enrolled in first grade. Included in the total but not shown separately are children from other racial/ethnic groups.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey (NHES), 1991 (Early Childhood Education File) and 1995 (Early Childhood Program Participation File).

Table 3-1 Percentage of first- and second-graders aged 6–8 whose parents reported they had behavioral and/or academic problems in school, by selected characteristics: 1991 and 1995

Selected characteristics	Behavioral problems[1] 1991	Behavioral problems[1] 1995	Problems with school work[1] 1991	Problems with school work[1] 1995	Academically below the middle of the class[2] 1991	Academically below the middle of the class[2] 1995
Total	**23.1**	**18.6**	**24.3**	**20.3**	**(4)**	**6.4**
Student's age[3]						
Age 6	23.3	19.0	24.0	18.8	(4)	5.9
Age 7	21.8	18.6	23.8	19.6	(4)	5.1
Age 8	26.0	17.7	26.4	25.7	(4)	11.4
Grade level						
First grade	23.7	19.1	23.0	18.9	(4)	5.6
Second grade	22.4	18.2	25.8	21.7	(4)	7.2
Race/ethnicity						
White	19.2	16.3	20.8	18.5	(4)	5.5
Black	35.1	31.6	31.4	29.2	(4)	10.6
Hispanic	29.5	18.4	34.8	21.3	(4)	6.6
Urbanicity						
Urbanized area	(4)	19.2	(4)	19.9	(4)	6.0
Not an urbanized area	(4)	17.3	(4)	18.0	(4)	7.4
Rural	(4)	17.9	(4)	22.0	(4)	6.8
Household income						
$10,000 or less	(4)	24.1	(4)	30.5	(4)	11.0
10,001-20,000	(4)	24.3	(4)	26.2	(4)	9.8
20,001-30,000	(4)	18.8	(4)	20.0	(4)	6.6
30,001-40,000	(4)	16.5	(4)	14.4	(4)	4.3
40,001-50,000	(4)	16.5	(4)	18.0	(4)	3.9
50,001 or more	(4)	14.3	(4)	14.9	(4)	3.7
Parents' highest education level						
Less than high school diploma	32.9	22.9	37.8	35.2	(4)	12.4
High school diploma or GED	24.7	23.3	25.7	21.3	(4)	6.9
Some college/vocational/technical	21.0	19.6	24.3	21.4	(4)	7.0
Bachelor's degree	17.6	10.5	18.6	14.8	(4)	4.0
Graduate/professional school	19.4	12.9	16.1	11.7	(4)	2.4
Family structure						
Two biological or adoptive parents	—	13.0	—	15.9	—	4.4
One biological or adoptive parent	—	25.8	—	26.9	—	9.8
One biological and one step parent	—	33.0	—	25.5	—	9.1
Other relatives	—	34.9	—	37.8	—	12.1

— Not available.

[1] "Behavioral problems" and "problems with school work" represent students whose parents reported they had been contacted by the school about these types of problems.

[2] In 1995, parents were asked to rate how well their child was doing compared to other children in the class using the following scale: "near the top of the class," "above the middle of the class," "around the middle," "below the middle," or "near the bottom." Students whose parents answered "below the middle" or "near the bottom" were categorized as "academically below the middle of the class."

[3] Age was as of December 31, 1990 for 1991 data, and as of December 31, 1994 for 1995 data.

[4] Urbanicity, family income, and academic standing for 1991 were not comparable to data for 1995.

NOTE: Included in the total but not shown separately are children from other racial/ethnic groups.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey (NHES), 1991 (Early Childhood Education File) and 1995 (Early Childhood Program Participation File).

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Table 4-1 Percentage of all 16- to 24-year-olds and those who dropped out of school, by English language usage and proficiency, and disability status: October 1992 and 1995

English language usage and proficiency, and disability status	16- to 24-year-olds		16- to 24-year-old dropouts[1]	
	1992	1995	1992	1995
Total 16- to 24-year-olds	**100.0**	**100.0**	**11.0**	**12.0**
Spoke English at home	85.7	85.1	8.8	9.6
Spoke a language other than English at home	14.3	14.9	21.5	24.2
Spanish	9.4	10.9	29.0	29.6
Other European	1.6	1.4	8.8	8.0
Asian	2.0	1.2	6.5	4.2
Other	1.2	1.5	4.3	7.9
16- to 24-year-olds who spoke a language other than English at home and:				
Had difficulty speaking English[2]	5.1	5.3	39.7	44.3
Did not have difficulty speaking English[2]	9.2	9.6	11.2	12.0
Had taken an ESL course	—	3.8	—	22.6
Had not taken an ESL course	—	1.5	—	24.8
Disability status				
No disabling condition	91.9	93.1	10.2	11.8
Had a disabling condition[3]	8.1	6.9	15.7	14.6
Blindness	0.7	0.1	16.2	16.9
Deafness	0.8	0.2	10.3	15.6
Other hearing impairment	1.1	0.5	13.5	([4])
Emotional disturbance	1.3	0.5	19.9	23.6
Learning disability	3.7	2.2	18.7	17.6
Orthopedic impairment	1.4	0.6	12.3	14.2
Mental retardation	1.2	0.5	22.4	31.1
Speech impediment	1.6	0.4	13.2	15.8

— Not available.

[1] Dropouts are those aged 16–24 who had not completed high school and who were not enrolled in school.

[2] Respondents were asked to rate the child's ability to speak English using the following scale: "not at all," "not well," "well," or "very well." If respondents answered "very well," children were categorized as not having difficulty speaking English; all others were categorized as having difficulty speaking English.

[3] Included in the totals are other disabling conditions not presented in the table. Some 16- to 24-year-olds with a disabling condition may be included in more than one disability category.

[4] Too few sample observations for a reliable estimate.

NOTE: For many key items in the October CPS, the Bureau of the Census imputes data for cases with missing data due to item non-response. However, for some of the items that were used in this indicator and in *Dropout Rates in the United States, 1995* item non-response was not imputed by the Bureau of the Census. Using a sequential hot deck procedure, the authors of the *Dropout Rates* report produced special imputations for nine items from the October 1995 CPS used in their report. To avoid inconsistency between this indicator and the *Dropout Rates* report, six of these items were also used for the statistics in this table and in table 4-2. Special imputations were not available for the October 1992 CPS at the time this table was prepared. However, different treatment of missing data due to item non-response in the two years is likely to have only small effects on the calculated statistics. For example, the dropout rate in 1995 for 16- to 24-year-olds who had repeated a grade was 24.4 when missing data on grade repetition and completing high school with a GED was imputed and 24.1 when these items were imputed. Details may not add to totals due to rounding.

SOURCE: U.S. Department of Commerce, Bureau of the Census, October Current Population Surveys, 1992 and 1995.

Note to Indicator 4: Estimates of non-English language usage and English language proficiency

Questions on language usage and proficiency were asked of the household respondent (usually the household head or the spouse of the household head) about all household members 5 years old and over. For each of these individuals the questions consisted of the following: "Does this person speak a language other than English at home?" If yes, then "What language does this person speak?" and "How well does this person speak English? Very well, Well, Not well, or Not at all." In 1995, the question "Has this person ever taken a course to learn how to read or write English as a second language?" was added.

Researchers and policymakers recognized that the question on English ability is an extremely subjective one: It is not possible to apply an objective standard to a person's report on his or her own English ability, or even worse, that person's report on the English language ability of other household members, to determine whether that person is really limited in his or her English ability. Thus, as a means of validating the English ability question, the English Language Proficiency Survey (ELPS) was sponsored by the Department of Education and carried out by the Census Bureau in 1982. The results of that survey, which included a lengthier set of questions about language and tests of English ability geared to age, revealed a strong correlation between responses on the English ability question and the test scores.* Using a set pass/fail score, persons who had reported English speaking ability of "Very well" passed at a rate similar to English-only persons (who were used as a control group). Persons who reported less than "Very well," (e.g., "Well," "Not well," or "Not at all") had significantly higher rates of failure. These results indicated that, although it would not be advisable to use a person's response to the English language ability question as a diagnostic tool for determining that person's own need for language services, it was appropriate to use the results as an aggregate measure for the population as a whole. Thus the number of persons who reported speaking English less than "Very well" may be considered one measure of the number of limited-English-proficient persons in the country.

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* Kominski, Robert. "How Good Is 'How Well?' An Examination of the Census English-speaking Ability Question." 1989.

Table 5-1 Percentage of students who reported using a computer at school or home, by grade and family income: October 1984, 1989, and 1993

	1984			1989			1993		
Current education level and family income*	Used a computer at school	Used a computer at home	Used a computer at home or school	Used a computer at school	Used a computer at home	Used a computer at home or school	Used a computer at school	Used a computer at home	Used a computer at home or school
Grades 1–6									
Total	**31.3**	**12.1**	**37.2**	**54.1**	**16.6**	**58.8**	**69.7**	**24.1**	**74.0**
Low income	19.1	2.5	20.6	40.9	3.3	42.0	59.8	4.0	60.5
Middle income	30.2	10.0	35.4	54.0	13.5	58.1	69.1	18.8	72.6
High income	43.4	25.0	54.5	64.4	34.6	73.0	78.4	51.4	87.3
Grades 7–12									
Total	**30.7**	**14.3**	**38.5**	**47.0**	**23.0**	**57.0**	**61.2**	**29.7**	**70.4**
Low income	21.8	3.6	24.3	42.3	6.6	44.9	53.3	6.1	54.8
Middle income	30.2	10.8	35.7	46.3	18.4	54.3	61.2	23.7	68.4
High income	35.8	26.1	50.4	50.9	41.3	68.9	65.5	55.3	83.0

* Low income is the bottom 20 percent of all family incomes; high income is the top 20 percent of all family incomes; and middle income is the 60 percent in-between.

SOURCE: U.S. Department of Commerce, Bureau of the Census, October Current Population Surveys.

Table 5-2 Percentage of students who reported using a computer, by grade and location of use: Selected years 1984–94

	At home			At school*			At the library		
Year	Grade 4	Grade 8	Grade 11	Grade 4	Grade 8	Grade 11	Grade 4	Grade 8	Grade 11
1984	44.8	36.6	30.3	38.8	33.3	45.0	25.2	20.5	22.2
1988	45.5	46.2	39.7	70.2	58.2	55.3	27.6	39.8	37.4
1990	43.3	41.2	42.8	81.1	59.5	55.1	34.5	35.1	46.2
1992	43.0	44.0	50.7	83.5	62.4	72.8	45.6	47.3	62.1
1994	50.0	50.1	51.0	86.0	72.3	73.9	48.1	56.8	61.3

* Based on the percentage of students who reported ever using a computer in school.

NOTE: Data in this table may appear inconsistent with data in table 5-1 due to a difference in respondents for the two sources. See the supplemental note to this indicator for further explanation.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Assessment of Educational Progress, *Almanac: Writing, 1984 to 1994*, 1996.

Note to Indicator 5: Comparability of sources for student computer use

Two primary data sources were used for the analysis in *Indicator 5*. Each surveyed different populations for different reasons. The full citations for these data sources are as follows:

- U.S. Department of Education, National Center for Education Statistics, National Assessment of Educational Progress, *Almanac: Writing, 1984 to 1994, Mathematics, 1978 to 1994, Science, 1986 to 1994*, 1996.
- U.S. Department of Commerce, Bureau of the Census, October Current Population Surveys, 1984, 1989, and 1993.

The National Assessment of Educational Progress (NAEP) Almanac data come from a survey administered to 9-, 13-, and 17-year-olds every 2 years. The questions on computer use are background questions administered to the students along with an assessment of their skills in mathematics, science, reading, and writing. The background questionnaire asks, among other things, how much time students spend on computers and for what activities they use a computer.

The October Current Population Surveys (CPS) are administered to households each year. The computer component of these surveys is included every few years, and has questions concerning the access students in the household have to computers at school and at home. These data can be broken out by race/ethnicity and family income level to provide descriptive information on who has access to computers and where they are using them.

Because one survey is directed toward students and the other toward the heads of households, the results from the two sources are not comparable. In fact, the difference in the respondents for these two surveys may account for the inconsistencies between supplemental tables 5-1 and 5-2, including the fact that household respondents reported students using computers at home less often than students themselves reported using computers at home.

Table 6-1 **Percentage of school library media centers that offered selected services and equipment, and library media center expenditures, by control and level of school: School year 1993–94**

Selected services and equipment	Public Total	Public Elementary	Public Secondary	Private Total	Private Elementary	Private Secondary
Percentage of schools' library media centers offering the following equipment:						
Telephone	61.2	55.8	74.7	40.8	30.7	52.8
Fax machine	7.8	4.7	15.1	5.1	3.1	7.9
Computer with modem	34.3	28.3	48.2	19.5	12.2	30.2
Automated catalog	24.0	20.3	32.8	9.7	5.5	15.8
Automated circulation system	37.9	34.1	47.7	9.5	5.4	16.0
Database searching with CD-ROM	31.2	23.9	48.1	13.9	6.3	25.7
On-line database searching	9.4	5.4	18.9	5.5	0.7	12.2
Compact disc for periodical indices, etc.	46.7	39.6	63.5	19.6	12.3	33.5
Video laser disc	31.9	30.3	36.1	6.3	4.8	9.9
Connection to Internet	12.0	9.5	17.5	5.3	2.8	9.2
Cable television	76.2	75.0	80.6	39.9	42.6	43.1
Broadcast television	48.6	48.0	49.9	39.9	42.9	39.7
Closed circuit television	25.5	22.0	34.0	8.8	5.7	19.2
Satellite dish	22.9	14.4	41.1	8.7	5.6	15.6
Total students using library per 100 students each week[1]	83	89	69	77	85	65
Books checked out per 100 students each week[1]	128	150	67	116	146	47
Percentage of schools offering the following services:						
Microcomputers	90.1	88.5	94.0	75.8	72.8	80.6
Long distance learning	19.0	15.9	24.8	8.8	8.3	8.2
Average number of items held per 100 students at the end of the 1992-93 school year:						
Books (number of volumes)	2,585	2,467	2,891	3,716	3,455	5,383
Current serial subscriptions (print and microfilm)	9	7	14	8	7	16
Video materials (tape and disc)	38	35	46	47	44	50
Other audio-visual materials	116	114	117	76	74	120
Microcomputer software	18	20	12	26	28	11
CD-ROM titles	1	1	2	1	[2]0	2
Expenditures[3] per student for the 1992-93 school year on the following:						
Books	$8.52	$7.80	$10.06	$7.86	$6.94	$12.86
Current serial subscriptions (print and microfilm)	2.18	1.49	4.15	1.57	0.95	4.83
Video materials (tape and disc)	1.24	1.04	1.77	1.07	0.87	1.49
Other audio-visual materials	0.82	0.77	0.87	0.55	0.55	0.72
Microcomputer software	1.09	0.89	1.48	1.41	1.25	1.86
CD-ROM titles	0.63	0.38	1.24	0.69	0.59	1.69

[1] During the most recent full week of school.

[2] Data less than 0.5 are rounded to 0.

[3] Locally budgeted expenditures exclude federal gifts and grants.

NOTE: Percentages are based on schools that have library media centers. In school year 1990-91, 96 percent of public and 87 percent of private schools had library media centers.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey (Library Media Center Questionnaire), 1993-94.

Table 7-1 Event dropout rates[1] for those in grades 10–12, aged 15–24, by parents' highest education level:[2] October 1990–95

Parents' highest education level	1990	1991	1992	1993	1994	1995
Total	**4.0**	**4.0**	**4.4**	**4.5**	**5.3**	**5.7**
Less than high school graduate	9.1	7.0	12.5	9.8	10.9	11.8
High school graduate	3.3	4.2	4.8	4.7	6.6	7.4
Some college	2.2	2.6	2.2	3.3	2.7	3.8
Bachelor's degree or higher	0.8	1.1	0.6	1.2	1.1	1.1
Not available[3]	20.1	17.9	22.7	16.8	23.6	22.5

[1] The event dropout rate is the percentage of those in grades 10-12, aged 15-24, who were enrolled the previous October, but who were not enrolled and had not graduated the following October.

[2] Parents' highest education level is defined as either 1) the highest educational attainment of the two parents who reside with the student, or if only one parent is in the residence, the highest educational attainment of that parent; or 2) when neither parent resides with the student (8 percent of 15-24 year olds in grades 10-12 in 1995), the highest educational attainment of the head of the household and his or her spouse.

[3] Parents' highest education level is not available 1) for those who do not live with their parents and who are classified as the head of the household (not including those who live in college dormitories); and 2) for those whose parents' educational attainment was not reported. In 1995, 15 percent of event dropouts aged 15-24 were in this category.

SOURCE: U.S. Department of Commerce, Bureau of the Census, October Current Population Surveys.

Note to Indicator 7: Recent school dropouts

In this indicator, recent school dropouts are measured by using the event dropout rate. The event dropout rate is the percentage of students enrolled in grades 10–12 in October of a given year who are not enrolled and have not graduated 1 year later.

Calculating the event dropout rate requires estimating 1) the number of students who left high school before graduating (recent dropouts), and 2) the number of students who were enrolled in grades 10, 11, and 12 the previous October. The event dropout rate for 1995 is calculated by using data from the October Current Population Survey (CPS). The numerator is estimated as the number of persons aged 15–24 who were enrolled in grades 10–12 in October 1994, were not enrolled in grades 10–12 in October 1995, and who had not completed 12 years of school. The denominator is estimated as the event dropouts and those aged 15–24 who attended grades 10, 11, and 12 in October 1994 who were still enrolled in October 1995, or who had completed 12 (or more) years of school and who indicated that they had graduated between October 1994 and 1995. Those enrolled in special schools are counted as "not enrolled in regular school" and may be classified as recent dropouts if they had been enrolled in a regular school the previous October.

Change in questions used to report educational attainment

From 1972 to 1991, the CPS defined educational attainment as "years of school completed." Individuals who completed 12 years of school were regarded as high school graduates and those who completed 16 years of school as college graduates. The number of years of school completed was based on responses to two questions: 1) "What is the highest grade . . . ever attended?" and 2) "Did . . . complete it?" For example, an individual who responded that the highest grade he or she ever attended was the first year of college and that he or she did not complete it was regarded as having completed 12 years of school. Beginning in 1992, these two questions were combined into a single question: "What is the highest level of school ... has completed or the highest degree . . . has received?" Previously, the earlier high school levels were listed as single summary categories such as "9th grade, 10th grade, or 11th grade." Then, several new categories were added, including "12th grade, no diploma;" "H.S. graduate —diploma or equivalent;" and "Some college—no degree." Finally, college degrees were listed by type, allowing for a more exact understanding of educational attainment. See the supplemental note to *Indicator 22* for further discussion on the how this change affects the measurement of educational attainment.

Procedural changes

In 1994, the Bureau of the Census introduced several changes to the procedures used in the CPS. These changes may affect the comparability of current statistics to those derived from earlier surveys. In 1994, the sample weights were calculated using information from both the 1980 and the 1990 Decennial Censuses. In earlier surveys, 1990 population figures were based on the 1980 Decennial Census and information collected during the 1980s on births, deaths, and migration. For some groups, the latter produces different population estimates than the former, the sample weights would change, as would the statistics used to calculate them.

Also, the Bureau began using Computer-Aided Personal (and Telephone) Interviews (CAPI and CATI) to administer the survey in 1994. For earlier surveys, interviewers were given printed questionnaires to use. It is well known that the method in which a survey is administered can have effects on its responses. Although substantial testing was done to minimize or predict these effects, all questions were not tested. Therefore, some statistics, such as dropout rates, may be affected by the change in survey procedures.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Dropout Rates in the United States, 1994*

Table 8-1 Percentage of high school graduates aged 16–24 who were enrolled in college the October following graduation, by parents' highest education level: 1990–95

Parents' highest education level[1]	1990	1991	1992	1993	1994	1995
Total	**60.1**	**62.5**	**61.9**	**61.5**	**61.9**	**61.9**
Less than high school graduate	33.9	42.6	33.1	47.1	43.0	27.3
High school graduate	49.0	51.0	55.5	52.3	49.9	47.0
Some college	65.6	67.5	67.5	62.7	65.0	70.2
Bachelor's degree or higher	83.1	87.2	81.3	87.9	82.5	87.7
Not available[2]	47.7	42.1	38.0	42.0	43.1	30.8

[1] Parents' highest education level is defined as either 1) the highest educational attainment of the two parents who reside with the student, or if only one parent is in the residence, the highest educational attainment of that parent; or 2) when neither parent resides with the student (6 percent of those enrolled in college in 1995), the highest educational attainment of the head of the household and his or her spouse.

[2] Parents' highest education level is not available 1) for those who do not live with their parents and who are classified as the head of the household (not including those who live in college dormitories); and 2) for those whose parents' educational attainment was not reported. In 1995, 10 percent of high school graduates aged 16–24 were in this category.

SOURCE: U.S. Department of Commerce, Bureau of the Census, October Current Population Surveys.

Table 8-2 Percentage of high school graduates aged 16–24 who were enrolled in college the October following graduation, by sex and type of institution: 1972–95

	Male			Female		
October	Total	2-year	4-year	Total	2-year	4-year
1972	52.7	—	—	46.0	—	—
1973	50.0	14.6	35.4	43.4	15.2	28.2
1974	49.4	16.6	32.8	45.9	13.9	32.0
1975	52.6	19.0	33.6	49.0	17.4	31.6
1976	47.2	14.5	32.7	50.3	16.6	33.8
1977	52.1	17.2	35.0	49.3	17.8	31.5
1978	51.1	15.6	35.5	49.3	18.3	31.0
1979	50.4	16.9	33.5	48.4	18.1	30.3
1980	46.7	17.1	29.7	51.8	21.6	30.2
1981	54.8	20.9	33.9	53.1	20.1	33.0
1982	49.1	17.5	31.6	52.0	20.6	31.4
1983	51.9	20.2	31.7	53.4	18.4	35.1
1984	56.0	17.7	38.4	54.5	21.0	33.5
1985	58.6	19.9	38.8	56.8	19.3	37.5
1986	55.8	21.3	34.5	51.9	17.3	34.6
1987	58.3	17.3	41.0	55.3	20.3	35.0
1988	57.1	21.3	35.8	60.7	22.4	38.3
1989	57.6	18.3	39.3	61.6	23.1	38.5
1990	58.0	19.6	38.4	62.2	20.6	41.6
1991	57.9	22.9	35.0	67.1	26.8	40.3
1992	60.0	22.1	37.8	63.8	23.9	40.0
1993	58.7	22.4	36.3	64.0	22.4	41.6
1994	60.6	23.0	37.5	63.2	19.1	44.1
1995	62.6	25.3	37.4	61.3	18.1	43.2

— Not available. Data regarding type of institution were not collected until 1973.

NOTE: Details may not add to totals due to rounding.

SOURCE: U.S. Department of Commerce, Bureau of the Census, October Current Population Surveys.

Note to Indicator 8: Family income

The Current Population Survey (CPS) includes a family income variable that is used as a measure of a student's economic standing in many indicators in this publication. The three family income categories used in this publication are low, middle, and high income. Low income is the bottom 20 percent of all family incomes; high income is the top 20 percent of all family incomes; and middle income is the 60 percent in-between. The table that follows shows the real dollar amounts, rounded to the nearest $100, of the breakpoints between low and middle income and between middle and high income. For example, in 1995, low income was defined as the range from $0–11,700; middle income was defined as the range between $11,701–56,200; and high income was defined as $56,201 and over. Therefore, the breakpoints between low and middle income and between middle and high income are $11,700 and $56,200, respectively.

Dollar value (in current dollars) at the breakpoint between low and middle and between middle and high income categories of family income: October 1970–95

	Breakpoints between:	
October	Low and middle	Middle and high
1970	$3,300	$11,900
1971	—	—
1972	3,500	13,600
1973	3,900	14,800
1974	—	—
1975	4,300	17,000
1976	4,600	18,300
1977	4,900	20,000
1978	5,300	21,600
1979	5,800	23,700
1980	6,000	25,300
1981	6,500	27,100
1982	7,100	31,300
1983	7,300	32,400
1984	7,400	34,200
1985	7,800	36,400
1986	8,400	38,200
1987	8,800	39,700
1988	9,300	42,100
1989	9,500	44,000
1990	9,600	46,300
1991	10,500	48,400
1992	10,700	49,700
1993	10,800	50,700
1994	11,800	*55,300
1995	11,700	56,200

* Revised from previously published figure.

— Not available.

NOTE: Amounts are rounded to nearest $100.

Table 9-1 **Percentage of students who attended a postsecondary institution within 2 years following scheduled high school graduation, by highest level of institution attended and selected characteristics: 1974, 1982, and 1994**

Selected characteristics	Total			4-year			2-year			Vocational, technical, or trade school		
	1974	1982	1994	1974	1982	1994	1974	1982	1994	1974	1982	1994
Total	**61.1**	**64.6**	**72.3**	**36.5**	**43.7**	**43.1**	**14.8**	**17.4**	**22.4**	**9.7**	**3.5**	**6.9**
Sex*												
Male	62.1	64.0	68.8	38.1	44.0	40.4	15.6	17.7	22.2	8.4	2.3	6.2
Female	60.1	66.9	75.9	34.9	44.8	45.8	14.0	17.4	22.6	11.1	4.7	7.5
Race/ethnicity												
White	62.3	65.9	74.0	38.1	45.3	45.9	14.6	17.1	21.9	9.6	3.5	6.2
Black	57.8	59.5	64.7	32.4	39.9	37.8	12.7	15.3	18.8	12.7	4.2	8.1
Hispanic	56.4	56.9	65.0	22.2	30.7	28.2	24.8	23.3	27.5	9.4	2.9	9.3
Asian/ Pacific Islander	82.6	89.6	84.9	57.6	63.6	49.3	21.5	24.1	26.7	3.5	2.0	8.9
Native American/ Other	44.1	53.4	57.4	17.1	28.7	23.2	15.9	22.5	28.7	11.0	2.1	5.5
Control of high school												
Public	60.2	62.6	70.1	35.4	41.0	40.2	15.1	18.1	23.0	9.7	3.5	7.0
Catholic	73.7	83.0	91.6	52.3	66.1	70.2	11.6	13.4	16.4	9.8	3.6	5.0
Private, other	84.4	81.9	94.7	61.8	70.5	69.8	10.1	7.4	17.6	12.5	4.0	7.3
Urbanicity of high school												
Central city	63.1	65.6	75.6	37.8	45.3	45.8	16.4	16.7	20.9	8.9	3.6	9.0
Urban fringe/ large town	69.9	68.3	75.5	45.7	45.8	44.7	16.8	19.1	24.2	7.3	3.4	6.6
Rural/small town	56.1	58.3	65.1	32.0	39.2	38.5	12.8	15.3	21.3	11.3	3.8	5.2
Achievement test quartile in high school												
First (low)	36.0	36.2	46.8	9.9	16.4	11.6	13.0	16.0	26.5	13.1	3.8	8.6
Second	51.2	53.8	65.6	22.3	28.7	26.6	16.8	20.5	29.5	12.2	4.6	9.5
Third	66.9	72.0	79.6	40.6	48.3	49.5	17.0	19.7	24.8	9.3	4.1	5.4
Fourth (high)	86.4	89.2	92.6	70.2	73.7	77.2	11.1	13.0	12.3	5.1	2.5	3.1
Socioeconomic status												
Low quartile	42.0	45.5	48.9	18.8	25.5	18.9	11.4	16.6	21.8	11.7	3.4	8.2
Middle quartiles	58.9	63.7	70.7	31.3	40.7	37.6	16.4	18.8	25.8	11.2	4.3	7.3
High quartile	85.1	88.1	91.3	65.1	70.3	69.5	15.1	15.7	16.7	4.9	2.0	5.1

* In 1980, the majority of the respondents missing the sex variable had less than a high school diploma; therefore, estimates of the percentage of male and female students who attended a postsecondary institution within 2 years following their scheduled 1980 high school graduation may be slightly inflated.

NOTE: Details may not add to totals due to rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Longitudinal Study of the High School Class of 1972 (NLS-72), First Follow-up (1974); High School and Beyond (HS&B) study, Senior Cohort, Third Follow-up Survey (1986); and National Education Longitudinal Study of 1988 (NELS:88), Second (1992) and Third Follow-up (1994).

Note to Indicator 9: Postsecondary enrollment rates

Definition of student percentages

Indicator 9 reports the percentages of high school students from different cohorts who enroll in postsecondary institutions. The data used to calculate enrollment rates came from three different surveys: National Longitudinal Study of the High School Class of 1972 (NLS-72), High School and Beyond (HS&B), and National Education Longitudinal Study of 1988 (NELS:88). Therefore, the survey respondents' postsecondary institution data were combined to form the following set of postsecondary institution types:

- None (not enrolled in a postsecondary institution)
- 4-year colleges or universities
- 2-year colleges
- Vocational, technical, or trade schools

The lists below describe how the responses from each survey (left column) were translated to postsecondary institution types (right column).

National Longitudinal Study of the High School Class of 1972 (NLS-72)

Survey response	Postsecondary institution
Vocational or technical	Vocational, technical, or trade schools
2-year college	2-year college
4-year college	4-year colleges or universities
Other	None
Unclassified	None
Missing data	Missing

High School and Beyond (HS&B), Senior Cohort, Third Follow-up (1986)

Survey response	Postsecondary institution
Part time-other	Vocational, technical, or trade schools
Full time-other	Vocational, technical, or trade schools
Part time, public 2-year	2-year college
Full time, public 2-year	2-year college
Part time, private 4-year	4-year colleges or universities
Full time, private 4-year	4-year colleges or universities
Part time, public 4-year	4-year colleges or universities
Full time, public 4-year	4-year colleges or universities
Non-student	None
Missing	Missing

National Education Longitudinal Study of 1988, Third Follow-up (1994) (NELS:88)

Survey response	Postsecondary institution
Private for-profit	Vocational, technical, or trade schools
Private not-for-profit, less-than-4-year, not working toward an associate's degree	Vocational, technical, or trade schools
Public less-than-2-year, not working toward an associate's degree	Vocational, technical, or trade schools
Private not-for-profit, less-than-4-year, working toward an associate's degree	2-year college
Public less-than-2-year, working toward an associate's degree	2-year college
Public 2-year	2-year college
Private 4-year	4-year colleges or universities
Public 4-year	4-year colleges or universities
Legitimate skip	None
Missing	Missing

Enrollment in multiple postsecondary institutions

There are cases in which respondents reported having enrolled in more than one type of postsecondary institution (e.g., enrolled in a 2-year college and then transferred to a 4-year college). For this analysis, only the highest reported level of postsecondary institution was used to calculate survey respondents' enrollment rates. For example, if a respondent reported enrolling in more than one type of postsecondary institution (2-year and 4-year colleges), the respondent was used in estimating the enrollment rate of the highest reported level of institution (4-year college) and not counted as enrolled in the lower level institution.

Enrollment rates were calculated for student enrollment in the fall following scheduled high school graduation and 2 years later. Since only the highest level of postsecondary institution was used in this analysis, respondents' earlier and later survey reponses may differ because they reported enrolling in more than one type of institution within 2 years after their scheduled high school graduation. Therefore, the percentage of students whose highest level of postsecondary enrollment was a vocational, technical, or trade school or a 2-year college may have decreased between the fall following scheduled high school graduation and 2 years later if sufficient numbers of students enrolled in a second, higher level institution.

Definition of the fall and 2 years following scheduled high school graduation

Indicator 9 reports enrollment rates in postsecondary institutions the fall immediately following and 2 years following different cohorts' scheduled graduation from high school. Since graduation dates vary between schools and school years, standard dates following each cohort's scheduled high school graduation were selected to estimate enrollment rates rather than calculating the exact time period following graduation for each survey respondent.

Enrollment rates in the fall following scheduled high school graduation were calculated using the enrollment status of survey respondents in the October following their scheduled graduation. For example, a survey respondent in the NLS-72 was considered enrolled in a postsecondary institution in the fall following scheduled high school graduation if he or she reported being enrolled in October 1972. October was selected because enrollment data for October were available for each survey used in this analysis and because the academic year at postsecondary institutions would have begun by then.

Enrollment rates 2 years following scheduled high school graduation were calculated using the enrollment status of survey respondents in February of the second calendar year following scheduled graduation. The second February following scheduled graduation was selected because enrollment status for February was available in all three surveys. Assuming that scheduled high school graduations are in June, then the elapsed time between scheduled graduation and the second February following graduation is 20 months. The actual elapsed time varies among survey respondents, but February is directly comparable across surveys. Therefore, a survey respondent in the NELS:88 Second Follow-up (the class of 1992) was considered to be enrolled in a postsecondary institution 2 years following scheduled high school graduation if he or she reported being enrolled by February 1994.

Table 10-1 Percentage of high school graduates enrolled in college, by age, race/ethnicity, and type of institution: October 1973–95

October	Aged 18-24				Aged 25-34				Aged 35 or older			
	Total	White	Black	Hispanic	Total	White	Black	Hispanic	Total	White	Black	Hispanic
2-year institutions												
1973	6.3	6.3	4.6	9.8	2.1	2.0	2.3	3.6	—	—	—	—
1974	7.0	6.4	7.2	14.6	2.4	2.2	3.6	3.3	—	—	—	—
1975	8.1	7.7	9.3	13.6	3.0	2.7	5.2	5.5	—	—	—	—
1976	7.8	7.3	8.6	14.4	3.1	2.7	4.8	6.5	0.9	0.9	1.4	2.1
1977	8.0	7.5	9.8	13.9	3.1	2.8	5.5	4.6	—	—	—	—
1978	8.0	7.6	7.9	11.9	2.7	2.5	4.1	4.6	1.0	0.9	1.7	1.9
1979	7.6	7.1	8.4	13.3	2.6	2.4	3.2	4.4	1.0	0.9	1.1	1.6
1980	8.5	8.1	9.0	11.9	2.8	2.6	3.4	3.8	0.8	0.8	1.4	1.1
1981	9.0	8.6	7.9	14.3	2.7	2.5	3.2	4.2	0.9	0.8	1.5	2.6
1982	9.3	9.0	7.4	14.6	2.8	2.6	3.5	4.0	0.9	0.8	1.0	1.4
1983	8.9	8.8	7.4	12.1	2.8	2.6	3.5	5.3	0.9	0.9	0.7	1.2
1984	8.6	8.2	9.2	10.8	2.7	2.6	2.8	3.5	0.8	0.7	1.0	0.8
1985	8.6	8.3	8.4	10.5	2.8	2.7	2.7	4.1	0.9	0.8	1.1	1.1
1986	9.0	9.0	6.9	12.3	2.7	2.6	2.5	4.1	0.9	0.9	1.3	0.9
1987	9.8	9.5	8.7	12.0	2.5	2.3	2.6	3.8	0.9	0.8	1.0	1.0
1988	10.6	10.6	7.8	13.4	2.5	2.3	3.5	3.3	0.9	0.9	1.4	1.5
1989	9.9	9.5	9.1	13.2	2.5	2.4	2.4	3.3	0.9	0.9	0.9	2.0
1990	10.5	10.2	10.6	13.2	2.8	2.7	2.7	3.5	1.0	0.9	1.1	1.9
1991	11.8	11.3	11.3	14.9	3.2	3.0	3.6	3.8	1.0	1.0	1.3	1.3
1992	12.0	11.2	10.7	17.6	2.9	2.8	2.3	3.8	0.9	0.9	0.9	1.4
1993	11.7	11.5	9.4	16.2	2.7	2.4	3.4	4.2	1.0	0.9	1.4	1.5
1994	11.1	10.8	10.5	13.1	3.1	2.7	3.9	4.4	1.0	0.9	1.2	2.0
1995	10.9	10.2	11.2	13.5	2.7	2.5	3.6	3.0	0.9	0.8	1.1	1.7
4-year institutions												
1973	15.6	15.9	12.5	13.3	1.9	1.8	2.4	2.5	—	—	—	—
1974	15.6	15.9	13.6	11.8	1.8	1.6	3.2	1.8	—	—	—	—
1975	15.7	15.8	15.1	15.9	2.0	1.9	2.6	2.5	—	—	—	—
1976	24.4	24.6	23.9	19.4	6.3	6.2	6.8	3.8	1.3	1.2	2.7	1.8
1977	23.1	23.4	19.9	16.8	6.6	6.4	7.6	7.2	—	—	—	—
1978	22.6	22.9	20.8	14.5	6.1	6.0	6.0	5.4	1.4	1.3	2.0	2.4
1979	22.8	23.5	19.6	15.7	6.2	6.2	5.3	6.6	1.4	1.4	2.1	1.2
1980	22.2	23.0	17.0	16.9	5.6	5.7	5.5	4.6	1.2	1.1	1.7	1.7
1981	22.4	23.1	18.8	15.0	5.8	5.6	6.2	5.7	1.4	1.3	2.2	1.3
1982	22.7	23.4	19.5	13.6	5.8	5.8	5.6	4.5	1.3	1.2	1.7	1.5
1983	22.6	23.4	18.4	17.9	5.9	5.8	4.9	4.4	1.4	1.3	1.9	1.9
1984	23.4	24.5	16.9	17.4	5.6	5.5	4.7	6.2	1.2	1.2	1.6	0.9
1985	23.8	25.3	16.4	14.8	5.6	5.7	4.1	5.3	1.4	1.3	1.8	2.1
1986	24.2	24.7	20.7	16.3	5.3	5.1	5.0	6.0	1.4	1.3	1.9	2.3
1987	26.2	27.7	20.3	16.1	5.6	5.5	5.3	5.0	1.5	1.4	1.6	1.5
1988	26.4	27.8	20.0	17.4	5.4	5.5	3.9	4.5	1.8	1.7	1.9	1.9
1989	28.1	30.1	21.4	15.1	5.8	5.9	3.8	3.8	1.6	1.6	1.2	1.7
1990	28.4	30.2	21.8	15.1	5.8	6.1	3.3	3.5	1.7	1.7	1.8	2.0
1991	29.1	30.9	19.5	19.1	5.8	5.7	4.5	4.8	1.7	1.7	2.1	1.6
1992	29.6	31.3	22.7	18.5	5.7	5.6	4.4	4.7	1.6	1.6	1.7	1.3
1993	29.3	30.6	22.8	18.7	5.8	5.8	4.7	5.2	1.6	1.5	2.0	1.6
1994	31.1	32.8	25.1	19.8	6.5	6.4	5.8	5.7	1.7	1.6	2.3	2.3
1995	31.2	33.5	24.0	21.4	6.7	6.8	5.5	5.0	1.7	1.6	2.5	2.1

— Not available.

NOTE: Included in the total but not shown separately are high school graduates from other racial/ethnic groups.

SOURCE: U.S. Department of Commerce, Bureau of the Census, October Current Population Surveys.

Table 11-1 **Percentage distribution of 1989–90 beginning postsecondary students seeking an associate's degree at 2-year institutions, by persistence and attainment as of spring 1994 and selected characteristics**

Selected characteristics	Completed a degree: Highest degree completed: Bachelor's	Completed a degree: Highest degree completed: Associate's	Completed a degree: Highest degree completed: Certificate	Completed a degree: Total any degree	Did not complete a degree: Total no degree	Did not complete a degree: Number of months enrolled[1]: Less than 9 months	Did not complete a degree: Number of months enrolled[1]: 9–18 months	Did not complete a degree: Number of months enrolled[1]: 19–27 months	Did not complete a degree: Number of months enrolled[1]: 28 months or more	Average months enrolled
Total[2]	**7.5**	**23.7**	**11.4**	**42.6**	**57.4**	**12.8**	**20.5**	**9.4**	**14.8**	**19.2**
Sex										
Male	6.2	20.1	13.6	39.9	60.1	13.6	19.7	10.2	16.7	20.3
Female	8.6	26.6	9.7	44.8	55.2	12.2	21.1	8.7	13.2	18.3
Age as of 12/31/89										
18 years or younger	15.2	34.2	7.8	57.2	42.9	7.7	12.8	8.2	14.2	21.8
19 years	1.5	22.4	13.2	37.1	62.9	16.8	19.5	7.4	19.2	20.3
20 years or older	1.6	11.9	14.8	28.3	71.7	16.7	30.2	11.7	13.1	16.9
Race/ethnicity										
American Indian/Alaskan Native	—	—	—	—	—	—	—	—	—	—
Asian/Pacific Islander	—	—	—	—	—	—	—	—	—	—
Black	5.7	16.1	18.1	39.9	60.1	18.4	20.5	11.9	9.3	17.9
Hispanic	8.9	22.4	9.8	41.0	59.0	1.9	25.9	13.5	17.7	—
White	7.6	24.6	10.8	43.1	57.0	13.7	19.8	8.4	15.1	18.9
Marital status in 1989–90										
Never married	9.3	26.9	10.6	46.7	53.3	10.8	17.8	8.8	15.8	20.2
Married	3.7	17.9	12.4	33.9	66.1	17.1	28.7	8.8	11.5	15.6
Divorced/separated/widowed	0.0	4.1	24.8	28.9	71.1	24.5	23.8	10.7	9.1	—
Number of children in 1989–90										
None	9.0	25.8	9.7	44.5	55.5	12.2	18.1	9.6	15.7	20.1
One	0.5	16.6	20.2	37.3	62.7	17.0	32.2	3.9	9.6	—
Two	1.2	11.3	13.8	26.3	73.7	7.7	41.6	13.8	10.7	—
Three or more	—	—	—	—	—	—	—	—	—	—
Socioeconomic status										
Lowest quartile	2.4	17.1	13.7	33.2	66.8	19.2	27.0	5.7	14.9	17.2
Middle two quartiles	6.4	22.3	12.5	41.2	58.8	12.4	20.4	10.9	15.2	19.4
Highest quartile	12.6	30.2	8.1	50.9	49.1	9.8	16.8	8.7	13.9	20.4
Income										
Dependent										
Less than $20,000	7.7	25.7	11.1	44.5	55.5	13.3	19.1	6.5	16.6	19.6
20,000–39,999	11.0	27.1	11.4	49.5	50.5	14.3	13.8	11.3	11.2	18.9
40,000–59,999	13.7	32.1	10.4	56.2	43.9	7.0	16.3	5.9	14.6	21.3
60,000 or more	7.2	30.9	3.1	41.2	58.8	4.4	17.9	13.2	23.3	25.5
Independent	1.8	13.8	14.3	29.9	70.1	16.6	28.7	10.3	14.5	17.3
Parental educational attainment										
Less than high school	1.7	16.3	12.0	30.0	70.0	13.2	28.0	15.5	13.4	18.1
High school graduate	8.4	20.1	11.5	40.0	60.0	15.3	19.8	12.1	12.8	15.5
Some postsecondary	8.5	28.7	8.7	46.0	54.1	9.2	22.7	8.9	13.3	18.0
Bachelor's degree	5.6	36.0	18.0	59.6	40.4	8.9	13.1	2.8	15.6	20.4
Advanced degree	12.5	31.5	2.3	46.3	53.7	6.2	16.8	5.1	25.7	27.9

Table 11-1 Percentage distribution of 1989–90 beginning postsecondary students seeking an associate's degree at 2-year institutions, by persistence and attainment as of spring 1994 and selected characteristics—Continued

	Completed a degree				Did not complete a degree					
	Highest degree completed			Total	Total	Number of months enrolled[1]				Average
Selected characteristics	Bachelor's	Associate's	Certificate	any degree	no degree	Less than 9 months	9-18 months	19-27 months	28 months or more	months enrolled
High school diploma or equivalency status										
High school diploma	8.1	24.8	11.1	43.9	56.1	12.6	18.2	9.6	15.7	19.8
GED/Equivalency certificate	1.6	12.2	15.4	29.1	70.9	14.8	44.5	6.9	4.8	14.1
None	—	—	—	—	—	—	—	—	—	—
Diploma/delayed entry status[3]										
Diploma, did not delay	11.9	32.1	10.0	54.0	46.0	9.1	13.4	7.6	16.0	22.5
Diploma, delayed entry	1.4	12.2	12.9	26.5	73.5	18.7	26.5	13.2	15.2	17.0
No diploma	1.6	12.2	15.4	29.1	70.9	14.8	44.5	6.9	4.8	14.1
Expected educational attainment										
Less than 2 years of postsecondary education	1.2	21.5	13.3	36.0	64.0	18.1	28.6	3.6	13.8	17.1
2 to 3 years postsecondary education	2.2	18.2	13.9	34.3	65.7	13.8	22.9	10.1	18.9	19.2
Bachelor's degree or higher	10.1	26.4	10.6	47.1	52.9	10.9	19.1	9.3	13.7	19.7
Enrollment status, first term										
Full-time	12.0	30.0	9.7	51.6	48.4	9.4	17.6	9.9	11.5	19.0
Less than full-time	2.1	15.5	13.1	30.7	69.3	16.5	23.7	9.2	20.0	20.0
Enrollment status in 1989–90										
Exclusively part-time	1.5	12.8	9.4	23.6	76.4	15.8	30.2	12.5	18.0	18.7
Mixed	6.6	35.1	11.3	53.0	47.0	0.0	20.1	6.4	20.5	—
Exclusively full-time	12.0	29.3	11.7	52.9	47.1	7.9	16.1	9.3	13.8	21.2
Field of study in 1989–90										
Humanities and social sciences	11.0	32.7	9.3	53.0	47.0	6.6	15.7	9.3	15.5	24.3
Physical and life sciences	—	—	—	—	—	—	—	—	—	—
Engineering, math, and computers	3.4	15.2	15.4	34.0	66.0	15.2	27.6	4.4	18.9	20.0
Education	16.7	37.7	4.7	59.1	40.9	7.8	3.0	24.7	5.5	—
Business and management	7.3	22.4	10.2	39.9	60.2	6.9	27.3	10.0	16.0	19.7
Health	4.7	24.4	25.6	54.7	45.3	0.0	17.1	11.4	16.9	—
Vocational/technical	5.5	25.2	11.2	41.9	58.1	9.4	24.2	9.8	14.6	18.4
Employed while enrolled[4]										
None	3.1	19.9	14.0	37.0	63.0	27.2	16.7	15.3	3.8	18.8
1–50 percent	8.4	30.7	21.0	60.1	39.9	4.5	16.7	5.3	13.5	26.0
More than 50 percent	7.9	22.6	9.3	39.7	60.3	13.4	21.8	9.1	16.0	24.9
Hours worked per week while enrolled										
None	5.6	21.1	19.5	46.2	53.8	14.1	12.6	15.5	11.7	17.7
1–20 hours	11.4	30.9	14.0	56.3	43.7	5.3	17.2	6.3	14.9	23.0
More than 20 hours	6.9	22.3	8.6	37.8	62.2	14.6	23.5	8.7	15.5	18.8
Received financial aid in 1989–90										
No	6.5	21.2	12.1	39.8	60.2	14.8	20.3	10.0	15.1	18.9
Yes	9.4	28.3	10.2	47.9	52.1	9.1	20.7	8.2	14.2	19.9

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Table 11-1 Percentage distribution of 1989–90 beginning postsecondary students seeking an associate's degree at 2-year institutions, by persistence and attainment as of spring 1994 and selected characteristics—Continued

Selected characteristics	Completed a degree				Did not complete a degree					
	Highest degree completed			Total	Total	Number of months enrolled[1]				Average
	Bachelor's	Associate's	Certificate	any degree	no degree	Less than 9 months	9–18 months	19–27 months	28 months or more	months enrolled
Received grant in 1989-90										
No	6.4	22.1	11.7	40.1	59.9	15.1	20.7	9.9	14.2	18.5
Yes	10.1	27.4	10.8	48.3	51.7	7.7	19.9	8.1	16.0	21.0
Received loan in 1989-90										
No	7.8	22.4	12.0	42.2	57.8	13.2	19.5	9.8	15.4	19.6
Yes	5.2	34.2	7.2	46.6	53.4	9.7	28.2	6.2	9.4	15.8
Grade point average in 1989-90										
Below 2.75	8.4	18.8	11.8	38.9	61.1	13.4	20.0	12.5	15.3	19.8
2.75 to 3.24	8.1	26.2	5.8	40.1	59.9	9.2	26.9	8.4	15.4	19.8
3.25 or higher	9.5	30.4	14.1	54.0	46.0	8.2	18.6	5.5	13.7	19.2
Academic integration in 1989-90[5]										
Low	1.6	13.1	8.6	23.2	76.8	26.5	24.5	0.9	25.0	17.5
Moderate	9.3	20.0	11.3	40.6	59.4	13.9	22.6	11.5	11.4	17.8
High	7.8	30.0	12.1	49.9	50.1	8.4	18.1	9.2	14.5	21.1
Social integration in 1989-90[6]										
Low	3.9	11.7	8.4	24.0	76.0	19.8	28.9	10.1	17.2	17.3
Moderate	7.6	25.8	12.4	45.8	54.2	11.8	18.2	10.0	14.3	19.5
High	11.7	30.7	11.7	54.2	45.8	8.9	18.9	6.0	12.0	20.8
Self rating of academic ability										
Above average	10.9	28.9	15.4	55.2	44.8	9.6	11.6	5.8	17.8	22.9
Average or below	6.5	21.7	9.8	38.0	62.0	14.2	23.9	10.3	13.6	18.2

— Too few sample observations for a reliable estimate.

[1] Includes students who are still enrolled.

[2] Limited to students seeking an associate's degree at 2-year institutions.

[3] Students were considered to have a diploma only if they had a regular high school diploma. Students with a GED or other high school credentials were considered to have no diploma.

[4] Percentage of months enrolled in which the student was also employed in 1989-94.

[5] Examines whether the student attended career-related lectures, participated in study groups with other students, talked about academic matters with faculty, or met with an advisor concerning academic plans.

[6] Examines whether the students had contact with faculty outside of class, went places with friends from school, or participated in student assistance centers/programs or school clubs.

NOTE: The number of total cases in a row is used as the denominator in the calculation of the percentage distribution, whereas the number of cases within the cell is used as the denominator in the calculation of averages. If the number of cases in the cell is below 30, a low number will result, despite available estimates for the row as a whole.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1990 Beginning Postsecondary Students Longitudinal Study, Second Follow-up (BPS:90/94).

Table 11-2 Percentage distribution of 1989–90 beginning postsecondary students seeking a certificate at 2-year and less-than-2-year institutions, by persistence and attainment as of spring 1994 and selected characteristics

	Completed a degree				Did not complete a degree					
	Highest degree completed			Total	Total	Number of months enrolled[1]				Average
Selected characteristics	Bach-elor's	Asso-ciate's	Certi-ficate	any degree	no degree	Less than 9 months	9–18 months	19–27 months	28 months or more	months enrolled
Total[2]	**0.5**	**4.3**	**49.7**	**54.5**	**45.5**	**22.7**	**15.7**	**4.4**	**2.8**	**10.5**
Sex										
Male	0.2	2.7	49.3	52.2	47.8	28.7	12.4	5.3	1.4	8.6
Female	0.7	5.3	49.9	55.9	44.1	19.0	17.7	3.8	3.7	11.8
Age as of 12/31/89										
18 years or younger	1.0	8.7	43.1	52.8	47.2	18.7	16.4	7.8	4.2	12.9
19 years	0.3	3.2	62.3	65.7	34.3	14.9	13.9	3.6	1.8	10.7
20 years or older	0.3	2.5	50.0	52.7	47.3	26.4	15.7	2.9	2.3	9.3
Race/ethnicity										
American Indian/Alaskan Native	—	—	—	—	—	—	—	—	—	—
Asian/Pacific Islander	—	—	—	—	—	—	—	—	—	—
Black	0.8	2.3	37.3	40.4	59.6	25.4	25.8	3.4	5.0	11.7
Hispanic	1.8	1.2	62.9	65.9	34.1	16.0	3.7	13.0	1.4	14.2
White	0.3	5.4	49.5	55.2	44.8	23.2	15.8	3.8	2.0	9.4
Marital status in 1989–90										
Never married	0.7	5.4	49.3	55.4	44.7	20.0	16.3	5.7	2.7	11.2
Married	0.3	1.5	50.9	52.7	47.3	26.3	14.9	1.7	4.4	9.9
Divorced/separated/widowed	0.0	3.3	51.0	54.2	45.8	26.4	16.8	2.3	0.3	8.5
Number of children in 1989–90										
None	0.5	6.0	49.1	55.7	44.3	20.1	16.8	5.1	2.3	10.9
One	0.5	2.7	49.9	53.0	47.0	22.6	13.5	5.4	5.5	12.5
Two	0.0	1.9	45.9	47.8	52.3	35.7	12.0	3.4	1.2	7.8
Three or more	1.4	1.7	51.5	54.6	45.4	18.2	21.3	0.7	5.3	—
Socioeconomic status										
Lowest quartile	0.5	1.3	47.6	49.4	50.6	26.6	15.6	5.1	3.3	10.7
Middle two quartiles	0.4	4.8	52.3	57.5	42.5	22.9	14.1	2.8	2.8	10.0
Highest quartile	0.8	10.4	44.1	55.4	44.6	11.4	22.8	9.2	1.2	12.1
Income										
Dependent										
Less than $20,000	0.0	7.1	52.9	59.9	40.1	23.1	13.8	1.6	1.6	8.6
20,000–39,999	1.0	4.9	40.6	46.4	53.6	24.7	14.2	10.4	4.3	13.0
40,000–59,999	1.0	7.6	65.2	73.9	26.1	3.9	13.4	1.5	7.3	—
60,000 or more	0.0	8.9	44.8	53.8	46.2	1.1	34.7	10.4	0.0	—
Independent	0.5	2.6	49.6	52.6	47.4	26.3	15.1	3.5	2.4	9.5
Parental educational attainment										
Less than high school	0.5	1.6	50.2	52.3	47.7	29.5	10.1	3.1	5.0	11.0
High school graduate	0.4	2.1	54.0	56.5	43.5	21.1	15.7	4.7	1.9	10.6
Some postsecondary	0.2	7.9	49.4	57.6	42.4	16.0	21.6	1.3	3.6	10.1
Bachelor's degree	2.1	5.6	30.4	38.1	61.9	30.4	20.0	8.2	3.3	—
Advanced degree	1.1	26.5	46.4	74.0	26.0	7.7	4.2	13.4	0.6	—

Table 11-2 Percentage distribution of 1989–90 beginning postsecondary students seeking a certificate at 2-year and less-than-2-year institutions, by persistence and attainment as of spring 1994 and selected characteristics—Continued

	Completed a degree				Did not complete a degree					
	Highest degree completed			Total	Total	Number of months enrolled[1]				Average
Selected characteristics	Bachelor's	Associate's	Certificate	any degree	no degree	Less than 9 months	9–18 months	19–27 months	28 months or more	months enrolled
High school diploma or equivalency status										
High school diploma	0.5	4.9	50.7	56.1	44.0	21.2	15.4	4.3	3.1	11.0
GED/Equivalency certificate	0.6	1.5	45.0	47.1	52.9	30.4	16.4	5.1	1.1	8.4
None	—	—	—	—	—	—	—	—	—	—
Diploma/delayed entry status[3]										
Diploma, did not delay	0.9	8.2	49.8	58.9	41.1	15.4	15.8	5.8	4.1	13.2
Diploma, delayed entry	0.2	2.9	51.2	54.3	45.7	24.7	15.2	3.3	2.5	9.9
No diploma	0.6	1.4	44.7	46.7	53.3	30.2	17.1	4.9	1.1	8.3
Expected educational attainment										
Less than 2 years of postsecondary education	0.4	1.4	56.2	58.0	42.0	24.0	10.6	6.7	0.7	9.5
2 to 3 years of postsecondary education	0.2	4.0	49.8	53.9	46.1	25.0	13.8	3.2	4.1	10.9
Bachelor's degree or higher	1.0	7.7	38.2	46.9	53.1	21.7	23.7	3.1	4.6	11.5
Level of first institution										
2-year	0.2	6.0	37.9	44.0	56.0	27.2	19.2	5.3	4.3	11.2
Less-than-2-year	0.8	2.9	60.0	63.7	36.4	18.8	12.6	3.5	1.5	9.5
Enrollment status, first term										
Full-time	0.7	4.5	56.3	61.5	38.5	23.1	11.6	1.8	2.0	8.8
Less than full-time	0.0	2.8	38.5	41.4	58.7	22.8	23.8	7.5	4.5	12.3
Enrollment status in 1989-90										
Exclusively part-time	0.3	0.3	41.1	41.6	58.4	21.4	22.7	10.3	4.0	12.5
Mixed	—	—	—	—	—	—	—	—	—	—
Exclusively full-time	0.7	5.9	52.1	58.7	41.3	22.0	13.8	2.6	2.9	10.3
Field of study in 1989-90										
Humanities and social sciences	—	—	—	—	—	—	—	—	—	—
Physical and life sciences	—	—	—	—	—	—	—	—	—	—
Engineering, math, and computers	0.0	7.0	58.6	65.6	34.4	9.0	24.4	0.0	1.0	—
Education	—	—	—	—	—	—	—	—	—	—
Business and management	0.8	3.6	58.6	63.0	37.0	10.5	15.2	6.5	4.9	14.5
Health	0.9	4.5	9.5	57.5	42.5	6.0	9.5	3.2	6.2	—
Vocational/technical	0.0	2.1	66.9	69.0	31.0	13.9	12.4	3.8	0.9	10.9
Employed while enrolled[4]										
None	0.0	1.0	56.9	57.9	42.1	25.8	14.6	1.3	0.4	7.0
1-50 percent	1.1	3.6	67.5	72.1	27.9	10.3	9.8	6.6	1.3	12.9
More than 50 percent	0.4	6.0	42.1	48.4	51.6	24.4	18.6	4.6	4.0	11.1
Hours worked per week while enrolled										
None	0.7	1.5	58.8	61.0	39.1	20.7	14.5	1.4	2.4	9.5
1-20 hours	0.8	2.5	71.6	74.8	25.2	12.7	10.6	0.7	1.2	10.7
More than 20 hours	0.3	6.2	40.6	47.2	52.8	25.6	17.3	6.7	3.3	10.9

Table 11-2 **Percentage distribution of 1989–90 beginning postsecondary students seeking a certificate at 2-year and less-than-2-year institutions, by persistence and attainment as of spring 1994 and selected characteristics—Continued**

	Completed a degree				Did not complete a degree					
	Highest degree completed			Total	Total	Number of months enrolled[1]				Average
Selected characteristics	Bachelor's	Associate's	Certificate	any degree	no degree	Less than 9 months	9–18 months	19–27 months	28 months or more	months enrolled
Received financial aid in 1989–90										
No	0.4	5.8	39.3	45.5	54.5	26.7	18.3	7.1	2.4	10.2
Yes	0.6	3.1	57.9	61.6	38.4	19.5	13.6	2.2	3.1	10.8
Received grant in 1989–90										
No	0.5	5.6	43.3	49.5	50.6	25.8	16.6	5.9	2.3	10.1
Yes	0.5	2.6	58.0	61.1	38.9	18.6	14.5	2.3	3.5	11.3
Received loan in 1989–90										
No	0.5	5.0	43.6	49.0	51.0	24.5	17.3	5.6	3.6	11.0
Yes	0.5	2.8	63.8	67.1	32.9	18.6	12.1	1.4	0.9	8.6
Grade point average in 1989–90										
Below 2.75	0.2	3.3	46.0	49.5	50.5	17.6	21.9	9.6	1.4	11.8
2.75 to 3.24	2.1	9.9	36.6	48.6	51.4	17.9	25.4	5.8	2.4	10.8
3.25 or higher	0.5	3.0	61.9	65.4	34.6	21.8	8.2	0.2	4.3	10.6
Academic integration in 1989–90[5]										
Low	0.4	5.9	31.6	37.9	62.1	32.2	17.0	3.6	9.2	11.7
Moderate	0.5	2.3	46.4	49.2	50.8	25.4	16.1	7.5	1.7	10.6
High	0.5	5.2	58.1	63.8	36.2	17.7	14.7	2.2	1.6	9.7
Social integration in 1989–90[6]										
Low	0.3	1.3	37.4	38.9	61.1	34.9	17.4	4.5	4.3	9.7
Moderate	0.5	6.0	51.3	57.8	42.2	19.0	15.5	5.3	2.4	11.1
High	0.7	3.2	59.7	63.6	36.4	18.5	13.6	2.0	2.3	10.3
Self rating of academic ability										
Above average	0.0	3.0	52.4	55.4	44.6	21.6	14.9	6.8	1.3	10.3
Average or below	0.6	4.6	48.4	53.7	46.4	23.4	15.9	3.8	3.3	10.6

— Too few sample observations for a reliable estimate.

[1] Includes students who are still enrolled.

[2] Limited to students seeking a certificate at 2-year and less-than-2-year institutions.

[3] Students were considered to have a diploma only if they had a regular high school diploma. Students with a GED or other high school credentials were considered to have no diploma.

[4] Percentage of months enrolled in which the student was also employed in 1989–94.

[5] Examines whether the student attended career-related lectures, participated in study groups with other students, talked about academic matters with faculty, or met with an advisor concerning academic plans.

[6] Examines whether the students had contact with faculty outside of class, went places with friends from school, or participated in student assistance centers/programs or school clubs.

NOTE: The number of total cases in a row is used as the denominator in the calculation of the percentage distribution, whereas the number of cases within the cell is used as the denominator in the calculation of averages. If the number of cases in the cell is below 30, a low number will result, despite available estimates for the row as a whole.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1990 Beginning Postsecondary Students Longitudinal Study, Second Follow-up (BPS:90/94).

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Table 11-3 Percentage distribution of 1989–90 beginning postsecondary students seeking an associate's degree or certificate, by selected characteristics

	Degree attempted	
Selected characteristics	Associate's degree	Certificate
Total[1]	**30.9**	**16.3**
Sex		
Male	44.7	38.0
Female	55.3	62.0
Age as of 12/31/89		
18 years or younger	43.7	28.2
19 years	19.9	13.3
20 years or older	36.5	58.6
Race/ethnicity		
American Indian/Alaskan Native	0.5	0.9
Asian/Pacific Islander	1.3	3.5
Black	9.9	14.7
Hispanic	9.5	8.6
White	78.8	72.3
Marital status in 1989–90		
Never married	77.3	62.3
Married	16.4	25.7
Divorced/separated/widowed	6.2	12.0
Number of children in 1989–90		
None	82.4	62.2
One	7.4	17.2
Two	6.5	13.7
Three or more	3.7	6.9
Socioeconomic status		
Lowest quartile	17.3	34.0
Middle two quartiles	53.3	53.3
Highest quartile	29.4	12.7
Income		
Dependent		
Less than $20,000	16.9	16.0
20,000–39,999	24.3	14.3
40,000–59,999	17.4	7.1
60,000 or more	8.0	5.2
Independent	33.6	57.4
Parental educational attainment		
Less than high school	12.1	23.2
High school graduate	41.4	41.4
Some postsecondary	21.2	22.6
Bachelor's degree	13.7	9.0
Advanced degree	11.7	3.8

Table 11-3 Percentage distribution of 1989–90 beginning postsecondary students seeking an associate's degree or certificate, by selected characteristics—Continued

Selected characteristics	Degree attempted	
	Associate's degree	Certificate
High school diploma or equivalency status		
High school diploma	91.3	83.2
GED/Equivalency certificate	8.7	16.4
None	0.0	0.4
Diploma/delayed entry status[2]		
Diploma, did not delay	57.9	31.4
Diploma, delayed entry	33.4	51.8
No diploma	8.7	16.8
Expected educational attainment		
Less than 2 years of postsecondary education	4.7	44.3
2 to 3 years of postsecondary education	24.0	22.9
Bachelor's degree or higher	71.3	32.8
Level of first institution		
2-year	100.0	46.7
Less-than-2-year	(3)	53.3
Enrollment status, first term		
Full-time	58.3	63.6
Less than full-time	41.7	36.4
Field of study in 1989–90		
Humanities and social sciences	19.0	5.6
Physical and life sciences	3.4	0.0
Engineering, math, and computers	13.6	8.3
Education	6.2	2.5
Business and management	30.5	30.1
Health	10.5	11.2
Vocational/technical	16.7	42.4
Employed while enrolled[4]		
None	6.8	21.6
1-50 percent	17.6	18.0
More than 50 percent	75.6	60.4
Hours worked per week while enrolled		
None	16.9	32.0
1-20 hours	18.6	10.5
More than 20 hours	64.5	57.5

Table 11-3 Percentage distribution of 1989–90 beginning postsecondary students seeking an associate's degree or certificate, by selected characteristics—Continued

Selected characteristics	Degree attempted	
	Associate's degree	Certificate
Received financial aid in 1989-90		
No	64.7	44.3
Yes	35.3	55.7
Received grant in 1989-90		
No	69.3	56.9
Yes	30.7	43.1
Received loan in 1989-90		
No	89.0	69.8
Yes	11.0	30.2
Grade point average in 1989-90		
Below 2.75	57.5	38.7
2.75 to 3.24	20.1	19.5
3.25 or higher	22.5	41.8
Academic integration in 1989-90[5]		
Low	12.6	16.1
Moderate	42.2	38.1
High	45.3	45.8
Social integration in 1989-90[6]		
Low	22.7	25.8
Moderate	55.9	54.2
High	21.4	20.0
Self rating of academic ability		
Above average	26.0	22.9
Average or below	74.0	77.1

[1] Limited to students seeking an associate's degree at 2-year institutions or a certificate at 2-year and less-than-2-year institutions.

[2] Students were considered to have a diploma only if they had a regular high school diploma. Students with a GED or other high school credentials were considered to have no diploma.

[3] Not applicable.

[4] Percentage of months enrolled in which the student was also employed in 1989-94.

[5] Examines whether the student attended career-related lectures, participated in study groups with other students, talked about academic matters with faculty, or met with an advisor concerning academic plans.

[6] Examines whether the students had contact with faculty outside of class, went places with friends from school, or participated in student assistance centers/programs or school clubs.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1990 Beginning Postsecondary Students Longitudinal Study, Second Follow-up (BPS:90/94).

Note to Indicator 11: Postsecondary persistence and degree completion

This analysis was constructed using data from the 1990 Beginning Postsecondary Students Longitudinal Study (BPS:90/94). BPS is based on a subsample of the 1990 National Postsecondary Student Aid Study (NPSAS:90), which consists of students beginning their postsecondary education for the first time at community colleges, vocational schools, and institutions granting bachelor's degrees during the 1989–90 academic year. The BPS First Follow-up was conducted in the spring of 1992, 2 years following the students' entry into postsecondary education, and the Second Follow-up was conducted during the spring of 1994. BPS provides detailed information regarding individual students' attendance patterns for 5 years following their first enrollment in postsecondary education.

The analysis examines persistence toward and completion of postsecondary degrees for students whose initial postsecondary degree objective was an associate's degree and who were initially enrolled at a 2-year institution. It also examines the persistence of students seeking a postsecondary certificate who were initially enrolled at either a 2-year or less-than-2-year institution. Whether the student was seeking an associate's degree or a certificate was determined by their response to the question "Toward which degree or other award are the courses you are taking leading?"

In constructing the analysis, students were first divided into two broad categories: those who completed a postsecondary degree and those who did not. Students who had completed a degree or certificate were categorized according to the highest degree attained. The remaining students who after 5 years had not completed a degree (bachelor's degree, associate's degree, or certificate), or who were still enrolled, were categorized according to the number of months they were (have been) enrolled in postsecondary education. It is important to note that the number of months enrolled is not necessarily continuous months; therefore, those months cannot be used as an indicator of when the student left postsecondary education. Rather, presenting the data in this manner was designed to give the reader a measure of the potential benefit derived from postsecondary attendance, even without having completed a degree.

Table 13-1 Percentage of 1989–90 beginning postsecondary students, by average hours worked per week while enrolled, attendance status up to first attainment, if any, or last enrollment, and selected characteristics

		Average hours worked per week while enrolled[1]			Attendance status	
Selected characteristics	Did not work	Less than 15 hours	15–33 hours	34 or more hours	Exclusively part time	More than part time
Total	**10.9**	**31.2**	**43.4**	**14.5**	**18.8**	**81.2**
Sex						
Male	8.1	29.6	45.4	16.9	19.5	80.5
Female	13.3	32.6	41.7	12.5	18.2	81.8
Age as of 12/31/89						
18 years or younger	5.7	39.1	46.5	8.8	7.0	93.0
19 years	10.0	31.5	44.6	13.9	15.0	85.0
20 years or older	22.0	14.9	36.4	26.7	45.2	54.8
Race/ethnicity						
American Indian/Alaskan Native	5.5	24.0	59.7	10.8	32.0	68.0
Asian/Pacific Islander	17.3	44.3	25.9	12.5	13.5	86.5
Black	18.9	33.9	36.1	11.0	22.9	77.1
Hispanic	11.4	28.0	45.0	15.5	22.4	77.6
White	9.6	30.6	44.8	15.0	18.1	81.9
Marital status in 1989–90						
Never married	7.6	34.3	46.3	11.9	12.2	87.8
Married	26.0	15.2	29.6	29.2	50.7	49.3
Divorced-widowed-separated	29.5	17.8	31.6	21.1	41.8	58.2
Number of children in 1989–90						
None	7.5	33.5	46.1	12.8	14.1	86.0
One	26.7	16.4	29.0	28.0	40.8	59.2
Two	30.8	19.0	25.6	24.6	45.0	55.0
Three or more	35.3	13.3	32.6	18.7	39.6	60.4
Dependency status						
Dependent	6.6	36.8	46.4	10.3	9.5	90.5
Independent	23.3	15.2	34.7	26.8	45.5	54.5
Income						
Dependent						
Less than $20,000	11.1	31.4	46.8	10.7	13.8	86.2
20,000–39,999	5.3	33.2	49.4	12.2	11.7	88.3
40,000–59,999	4.5	37.9	47.6	10.0	7.6	92.4
60,000 or more	6.2	46.2	40.1	7.5	4.3	95.7
Independent	23.3	15.2	34.7	26.8	45.5	54.5
Socioeconomic status						
Lowest quartile	21.1	18.9	36.7	23.3	40.0	60.0
Middle two quartiles	12.7	26.4	44.2	16.7	22.6	77.4
Highest quartile	5.1	41.1	44.9	8.9	6.7	93.3
Parents' educational attainment						
Less than high school	17.4	17.7	37.5	27.4	33.8	66.3
High school graduate	11.4	25.7	46.4	16.5	24.6	75.4
Some postsecondary	10.0	29.6	48.3	12.1	14.2	85.8
Bachelor's degree	5.8	43.2	41.2	9.9	8.3	91.7
Advanced degree	7.6	43.8	42.2	6.5	5.3	94.7

Table 13-1 Percentage of 1989–90 beginning postsecondary students, by average hours worked per week while enrolled, attendance status up to first attainment, if any, or last enrollment, and selected characteristics—Continued

Selected characteristics	Did not work	Average hours worked per week while enrolled[1] Less than 15 hours	15–33 hours	34 or more hours	Attendance status Exclusively part time	More than part time
High school diploma or equivalency status						
High school diploma	9.8	32.0	44.2	14.1	17.7	82.3
GED/Equivalency certificate	26.0	20.0	32.2	21.8	35.5	64.6
Neither	—	—	—	—	—	—
Expected educational attainment 1989-90						
Less than 2 years of postsecondary education	27.1	11.7	32.8	28.4	35.0	65.0
2 to 3 years of postsecondary education	15.1	19.3	43.1	22.5	39.5	60.5
Bachelor's degree or higher	7.7	35.9	45.4	11.0	12.3	87.7
Diploma/delayed entry status[2]						
Diploma, did not delay	6.4	38.4	46.2	9.1	7.1	92.9
Diploma, delayed entry	18.5	15.5	39.1	26.8	44.8	55.2
No diploma	27.2	19.7	31.7	21.5	35.3	64.7
Degree working toward 1989-90						
Certificate	28.1	13.8	32.5	25.7	36.8	63.2
Associate's degree	9.2	24.3	49.2	17.4	22.3	77.8
Bachelor's degree	5.7	42.4	44.4	7.5	6.3	93.7
Control and type of first institution[3]						
Public 4-year	5.4	41.1	46.7	6.8	5.1	94.9
Private, not-for-profit 4-year	5.7	52.8	36.5	4.9	5.1	94.9
Public 2-year	9.8	22.2	46.2	21.8	29.2	70.8
Private, for-profit	32.2	15.9	34.6	17.3	31.1	68.9
Field of study 1989-90						
Humanities and social sciences	7.0	36.8	48.0	8.3	10.0	90.0
Physical and life sciences	4.1	41.1	49.6	5.2	3.3	96.7
Engineering, math, and computer science	9.1	36.2	39.5	15.3	24.8	75.2
Education	7.1	46.0	42.1	4.9	3.8	96.2
Business and management	11.7	29.1	43.4	15.8	20.3	79.8
Health	13.6	39.6	41.4	5.4	8.1	91.9
Vocational / technical	13.7	23.0	47.6	15.8	24.3	75.7
Enrollment status in 1989-90						
Exclusively part time	10.8	11.5	44.4	33.3	69.8	30.2
Mixed	5.4	33.6	52.8	8.2	0.0	100.0
Exclusively full time	10.4	35.6	45.0	9.0	0.0	100.0
Attendance status						
Exclusively part time	16.4	5.9	37.2	40.5	100.0	0.0
At least some full time	9.6	37.0	44.8	8.5	0.0	100.0

Table 13-1 Percentage of 1989–90 beginning postsecondary students, by average hours worked per week while enrolled, attendance status up to first attainment, if any, or last enrollment, and selected characteristics—Continued

Selected characteristics	Did not work	Average hours worked per week while enrolled[1] Less than 15 hours	15–33 hours	34 or more hours	Attendance status Exclusively part time	More than part time
Received financial aid in 1989-90						
No	8.5	28.8	44.4	18.3	23.8	76.2
Yes	13.7	34.0	42.2	10.1	12.8	87.2
Received grant in 1989-90						
No	9.1	29.1	44.4	17.4	22.7	77.3
Yes	13.8	34.6	41.8	9.8	12.5	87.5
Received loan in 1989-90						
No	10.6	29.8	43.8	15.7	21.0	79.0
Yes	11.8	36.8	41.7	9.7	9.9	90.1
Grade point average in 1989-90						
Below 2.75	8.2	31.7	47.0	13.1	13.9	86.1
2.75 to 3.24	7.3	34.1	45.8	12.9	16.0	84.0
3.25 or higher	12.1	33.5	41.6	12.9	21.4	78.6
Self rating of academic ability						
Above average	9.9	38.9	42.3	8.9	11.7	88.3
Average or below	11.3	27.1	44.1	17.5	22.3	77.7
Academic integration in 1989-90[4]						
Low	12.7	17.6	37.4	32.2	44.7	55.3
Moderate	11.2	27.0	44.4	17.5	25.4	74.7
High	10.3	36.2	44.1	9.5	9.9	90.1
Social integration in 1989-90[5]						
Low	15.5	12.9	37.7	33.9	49.3	50.7
Moderate	12.0	31.2	42.9	13.8	17.6	82.4
High	6.8	39.3	47.1	6.9	6.6	93.4
Average hours worked per week while enrolled						
Did not work	100.0	0.0	0.0	0.0	28.3	71.8
Less than 15 hours	0.0	100.0	0.0	0.0	3.6	96.5
15–33 hours	0.0	0.0	100.0	0.0	16.1	83.9
34 or more hours	0.0	0.0	0.0	100.0	52.4	47.7

— Too few cases for a reliable estimate

[1] "Average hours worked per week while enrolled" was calculated relative to students' enrollment and included only hours for those months students were both working and enrolled up to first attainment (if any) or last enrollment.

[2] Students were considered to have a diploma only if they had a regular high school diploma. Students with a GED or other high school credentials were considered to have no diploma.

[3] Does not include students enrolled in either public less-than-2-year or private, not-for-profit less-than-4-year institutions.

[4] Includes whether the student attended career-related lectures, participated in study groups with other students, talked about academic matters with faculty, or met with an advisor concerning academic plans.

[5] Includes whether the students had contact with faculty outside of class, went places with friends from school, or participated in student assistance centers/programs or school clubs.

NOTE: Due to rounding, details may not add to 100.0.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1990 Beginning Postsecondary Students Longitudinal Study, Second Follow-up (BPS:90/94).

Table 13-2 Percentage of 1989–90 beginning postsecondary students who attained a degree or who were still enrolled by spring 1994, by control and type of first institution, average hours worked per week while enrolled,[1] and attendance status up to first attainment, if any, or last enrollment

Average hours worked per week while enrolled[1]	Total[2]	Control and type of first institution			
		Public 4-year	Private, not-for-profit 4-year	Public 2-year	Private, for-profit
Total	**63.0**	**73.2**	**80.5**	**51.4**	**61.4**
Did not work	51.8	55.9	72.8	43.1	55.2
Less than 15 hours	78.8	83.7	86.6	68.5	73.4
15–33 hours	65.3	72.0	78.0	56.9	70.4
34 or more hours	30.7	30.7	40.3	26.1	45.3
		Exclusively part time			
Total	**24.9**	**11.2**	**24.9**	**19.6**	**48.8**
Did not work	19.4	—	—	—	43.2
Less than 15 hours	29.1	—	—	—	—
15–33 hours	32.4	—	38.5	25.8	69.4
34 or more hours	19.0	9.2	—	16.2	32.7
		At least some full time			
Total	**71.9**	**76.6**	**83.5**	**64.5**	**67.1**
Did not work	64.7	63.3	82.2	62.2	61.6
Less than 15 hours	80.7	84.7	87.5	70.9	79.1
15–33 hours	71.6	74.4	80.6	67.2	70.8
34 or more hours	43.7	40.3	50.1	41.3	54.5

— Too few sample observations for a reliable estimate.

[1] "Average hours worked per week while enrolled" was calculated relative to students' enrollment and included only hours for those months students were both working and enrolled up to first attainment (if any) or last enrollment.

[2] Although not shown separately, totals include students enrolled in either public less-than-2-year or private, not-for-profit less-than-4-year institutions.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1990 Beginning Postsecondary Students Longitudinal Study, Second Follow-up (BPS:90/94).

Note to Indicator 13: Employment and postsecondary persistence and attainment

This analysis was constructed using data from the Beginning Postsecondary Student Longitudinal Study (BPS:90/94). BPS is based on a sub-sample of the 1990 National Postsecondary Student Aid Study (NPSAS:90) which consists of students beginning their postsecondary education for the first time at community colleges, vocational schools, and institutions granting bachelor's degrees during the 1989–90 academic year. The first BPS follow-up survey was conducted in the spring of 1992, two years following the student's entry into postsecondary education and the second follow-up was conducted during the spring of 1994. BPS provides detailed information regarding individual students' attendance patterns for five years following their first enrollment into postsecondary education.

The analysis examines the relationship between students' cumulative working status and their postsecondary outcomes according to the first type of institution in which they enrolled. Postsecondary outcomes were defined as whether the student had attained a degree or was still enrolled 5 years after initial entry into postsecondary education.

Average hours worked per week while enrolled

Students were divided into four categories based on the average number of hours they worked per week while enrolled up to their first attainment (if any) or last enrollment. These categories included no work, worked 1–15 hours per week, worked 15–33 hours per week, and worked 34 or more hours per week while enrolled. Average hours worked while enrolled was calculated relative to students' enrollment and included only hours for those months that students were both working and enrolled up to their first attainment (if any) or last enrollment. Students missing employment or enrollment information for any part of this period were excluded from the analysis.

Note to Indicator 14: Skill improvement training

Change between NHES 1991 and 1995

In 1995, the National Household Education Survey (NHES) questionnaire items on adult education and skill improvement training were constructed differently than those in the NHES 1991 questionaire. In NHES 1991, different types of adult education courses and the main reasons for taking these courses could be obtained from the following item: "What was your main reason for taking (name 1 course)?" Response categories for this question included the following:

- A personal, family, or social reason;
- To improve, advance, or keep up-to-date on current job;
- To train for a new job or a new career;
- To improve your basic reading, writing, or math skills;
- To meet a requirement for a diploma, degree, or certificate of completion;
- Some other reason.

The participation rates for skill improvement training for 1991 were based on the number of respondents who chose the second response category, "to improve, advance, or keep up-to-date on current job."

In NHES 1995, respondents were asked about the different types of adult education courses they had taken in the last 12 months in each of five separate sections of the survey questionnaire: English as a Second Language; Basic Skills and GED preparation; Credential; Personal; and Career or Job related activities. Within each section, the respondents were also asked to choose the main reason for participating in that type of course. Response categories for this question include the following:

- To improve, advance, or keep up-to-data on current job;
- To train for a new job or a new career;
- To improve your basic reading, writing, or math skills;
- To meet a requirement for a diploma, degree, or certificate of completion;
- A personal, family, or social reason;
- Some other reason.

The participation rates for skill improvement training for 1995 were based on the number of respondents who chose the first response category in each of the five sections "to improve, advance, or keep up to date on current job."

Currently employed workers

Currently employed workers were defined as individuals who were employed during the survey week and who were not full-time students. Individuals who were on vacation during the survey week were not included in this analysis.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey, 1991 and 1995 (Adult Education Component).

Table 15-1 Explanations of levels of reading proficiency

Level 350:	**Learns from specialized reading materials** Readers at this level can extend and restructure the ideas presented in specialized and complex texts. Examples include scientific materials, literary essays, and historical documents. Readers also able to understand the links between ideas even when those links are not explicitly stated, and to make appropriate generalizations. Performance at this level suggests the ability to synthesize and learn from specialized reading materials.
Level 300:	**Understands complicated information** Readers at this level can understand complicated literary and informational passages, including material about topics they study at school. They can also analyze and integrate less familiar material and provide reactions to and explanations of the text as a whole. Performance at this level suggests the ability to find, understand, summarize, and explain relatively complicated information.
Level 250:	**Interrelates ideas and makes generalizations** Readers at this level use intermediate skills and strategies to search for, locate, and organize the information they find in relatively lengthy passages and can recognize paraphrases of what they have read. They can also make inferences and reach generalizations about main ideas and author's purpose from passages dealing with literature, science, and social studies. Performance at this level suggests the ability to understand specific or sequentially related information.
Level 200:	**Partial skills and understanding** Readers at this level can locate and identify facts from simple informational paragraphs, stories, and news articles. In addition, they can combine ideas and make inferences based on short, uncomplicated passages. Performance at this level suggests the ability to understand specific or sequentially related information.
Level 150:	**Simple, discrete reading tasks** Readers at this level can follow brief written directions. They can also select words, phrases, or sentences to describe a simple picture and can interpret simple written clues to identify a common object. Performance at this level suggests the simple, discrete reading tasks.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Assessment of Educational Progress. *Trends in Academic Progress: Achievement of U.S. Students in Science, 1969 to 1994; Mathematics, 1973 to 1994; Reading, 1971 to 1994; Writing, 1984 to 1994*, 1996.

Table 15-2 Percentage of students aged 9, 13, or 17 scoring at or above five levels of reading proficiency: 1971, 1975, 1980, 1984, 1988, 1990, 1992, and 1994

Proficiency level	Age	Year 1971	1975	1980	1984	1988	1990	1992	1994
Level 350:	9	0	0	0	0	0	0	0	0
Learns from specialized	13	[1]0	0	0	0	0	0	1	[2]1
reading materials	17	7	6	[2]5	6	[1,2]5	7	7	7
Level 300:	9	1	1	1	1	1	[1]2	1	1
Understands complicated	13	[1]10	[1]10	[1]11	[1]11	[1]11	[1]11	[2]15	[2]14
information	17	39	39	38	40	41	41	[2]43	41
Level 250:	9	16	15	18	17	18	18	16	17
Interrelates ideas and	13	58	59	61	59	59	59	62	60
makes generalizations	17	79	80	81	[2]83	[1,2]86	[2]84	[2]82	81
Level 200:	9	59	[2]62	[2]68	62	63	59	62	63
Partial skills and	13	93	93	[2]95	[1]94	[1]95	94	93	92
understanding	17	96	96	[2]97	[1,2]98	[1,2]99	[2]98	97	97
Level 150:	9	91	[2]93	[1,2]95	[2]92	93	90	92	92
Simple, discrete	13	[1]100	100	[1]100	100	100	100	100	[2]99
reading tasks	17	100	100	[2]100	[2]100	[2]100	100	100	100

[1] Statistically significant difference from 1994.

[2] Statistically significant difference from 1971.

NOTE: See table 15-1 for further explanations of the proficiency levels.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Assessment of Educational Progress, *Trends in Academic Progress: Achievement of U.S. Students in Science, 1969 to 1994; Mathematics, 1973 to 1994; Reading, 1971 to 1994; Writing, 1984 to 1994*, 1996.

Table 15-3 Percentile distribution of reading proficiency scores, by age and race/ethnicity: 1980, 1984, 1988, 1990, 1992, and 1994

	Age 9						Age 13						Age 17					
Percentile	1980	1984	1988	1990	1992	1994	1980	1984	1988	1990	1992	1994	1980	1984	1988	1990	1992*	1994
All students																		
5	149	141	142	135	141	140	199	197	200	196	191	188	209	220	226	220	214	211
10	165	159	157	150	156	156	213	210	213	210	208	205	228	236	242	237	233	230
25	191	184	184	179	183	184	235	234	234	233	235	233	258	263	266	264	263	260
50	217	213	214	210	214	215	260	258	258	257	262	260	288	290	291	291	293	290
75	241	240	240	240	239	240	283	282	281	282	287	285	316	317	316	319	319	319
90	262	263	263	266	260	260	302	302	302	302	309	307	340	340	337	343	343	343
95	273	277	278	280	272	272	314	314	314	314	322	320	354	353	349	356	356	358
White																		
5	161	152	150	144	153	152	209	205	204	204	204	200	226	230	233	229	228	222
10	175	167	165	160	167	168	222	218	217	217	219	217	242	246	247	246	245	241
25	199	192	192	188	193	194	243	241	238	240	243	242	267	271	271	271	272	270
50	223	220	219	218	221	221	265	263	262	263	268	267	294	297	295	298	300	298
75	246	245	244	247	244	244	287	286	285	286	292	290	320	322	320	324	325	324
90	265	267	267	271	264	263	306	305	304	306	312	311	343	343	340	347	347	347
95	276	280	281	285	276	275	317	317	316	318	324	324	357	356	352	360	359	361
Black																		
5	123	121	125	115	119	119	179	180	191	182	170	170	176	202	214	201	188	192
10	139	135	138	129	132	133	191	192	202	194	185	183	191	216	228	217	206	210
25	165	159	162	153	156	155	211	213	222	217	210	208	217	239	251	242	235	239
50	192	187	188	182	185	186	233	236	242	243	239	236	244	264	274	268	263	268
75	216	213	217	211	214	216	255	259	264	266	266	261	270	288	300	294	288	296
90	236	235	238	236	236	237	275	280	284	286	287	283	293	311	321	316	312	318
95	247	248	252	251	249	248	286	293	299	299	303	295	307	324	333	331	328	335
Hispanic																		
5	123	120	122	125	125	119	183	181	181	178	165	174	184	202	204	206	193	187
10	138	135	140	139	139	134	195	193	195	191	184	187	197	217	218	224	213	203
25	164	161	165	161	163	157	215	216	219	214	213	211	225	242	246	250	241	236
50	192	189	196	189	193	184	238	240	240	239	242	236	253	269	274	276	275	264
75	218	215	222	219	222	216	259	264	262	262	267	260	279	295	298	303	303	294
90	238	236	247	239	245	243	279	284	284	284	289	282	307	318	316	327	326	318
95	250	247	259	253	255	255	291	296	297	296	303	298	321	332	328	339	337	331

* Scores have been revised from previously published figures.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Assessment of Educational Progress, *Trends in Academic Progress: Achievement of U.S. Students in Science, 1969 to 1994; Mathematics, 1973 to 1994; Reading, 1971 to 1994; Writing, 1984 to 1994*, 1996.

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Table 15-4 Average reading proficiency, by age and parents' highest education level: 1971, 1975, 1980, 1984, 1988, 1990, 1992, and 1994

		Age 9		Age 13		Age 17	
Parents' highest education level	Year	Percentage of students	Average proficiency	Percentage of students	Average proficiency	Percentage of students	Average proficiency
Less than a high school graduate	1971	[1]10	189	[1]16	238	[1]20	261
	1975	[1]10	190	[1,2]14	239	[1,2]16	262
	1980	[1,2]6	194	[1,2]10	238	[1,2]13	262
	1984	[1,2]6	[2]195	[2]9	240	[1,2]12	[2]269
	1988	[2]5	192	[2]8	[1,2]246	[2]9	267
	1990	[2]5	193	[2]8	241	[2]9	270
	1992	[2]5	195	[2]6	239	[2]8	271
	1994	[2]4	189	[2]7	237	[2]7	268
Graduated from high school	1971	[1]22	208	[1]32	[1]256	[1]31	[1]283
	1975	[1]24	211	[1]33	255	[1]34	281
	1980	[1,2,3]25	[2]213	31	254	[1]32	[2]278
	1984	[1,2,3]20	209	[1,2,3]36	253	[1,2]35	281
	1988	[2]16	211	31	253	30	282
	1990	[2]17	209	31	[1]251	30	[1]283
	1992	[2]16	207	28	252	28	280
	1994	[2]16	207	[2]21	[2]251	[2]27	[2]276
Some education after high school	1971	[1]33	224	[1]38	270	[1]42	302
	1975	[1]34	222	[1]40	270	[1,2]46	301
	1980	[1,2]40	[1]226	[1,2]49	271	[1,2]51	299
	1984	[1,2,3]37	223	[1,2,3]46	268	[1,2]50	301
	1988	[2]45	220	[2]52	[2]265	[2]58	300
	1990	[2]42	[2]218	[1,2]50	267	[2]58	300
	1992	[2]45	220	[2]57	270	[2,3]61	299
	1994	[2]46	221	[2]57	269	[2]62	299

[1] Statistically significant difference from 1994.

[2] Statistically significant difference from 1971.

[3] Revised from previously published figures.

NOTE: "Percentage of students" represents the percentage of all students from each subgroup. Not shown are about one-third of students at age 9 and smaller percentages at ages 13 and 17 who did not know their parents' highest education level.

SOURCE: U. S. Department of Education, National Center for Education Statistics, National Assessment of Educational Progress, *Trends in Academic Progress: Achievement of U.S. Students in Science, 1969 to 1994; Mathematics, 1973 to 1994; Reading, 1971 to 1994; Writing, 1984 to 1994*, 1996.

Note to Indicator 15: NAEP cohorts

Long-term trend

Three of the NAEP assessments, reading, mathematics, and science, report trends in the progress of students by age. Proficiencies are reported for those students aged 9, 13, and 17. The modal grades for students at these ages are 4th, 8th, and 11th grade. The fourth assessment, writing, is given to students in grades 4, 8, and 11, regardless of their age. In all four subjects, it would appear that the time span between the youngest and middle age/grade is greater than between the middle and oldest group. However, the way age is defined (on a calendar or fiscal year basis) and the time at which each age/grade is assessed (fall, winter, or spring) results in the same length of time (or years of schooling) between the three age/grade groups. A discussion of this methodology follows.

Age is determined on a calendar year basis for 9- and 13-year-olds, but on a fiscal year basis for 17-year-olds. In other words, the reading, mathematics, and science scores in 1994 represent students born in 1984 (9-year-olds), students born in 1980 (13-year-olds), and students born between October 1, 1976 and September 30, 1977 (17-year-olds). The writing scores represent students in grades 4, 8, or 11 at the time of the assessment regardless of age.

In addition to different age definitions, the time of the school year when the assessment is administered varies across age levels: 9-year-olds/4th-graders are tested in the winter; 13-year-olds/8th-graders are tested in the fall; and 17-year-olds/11th-graders are tested in the spring for all the assessments. Since 9-year-olds are tested between January and February of the year in which they turn 10, and 13-year-olds are tested between October and December of the year in which they turn 13, the 13-year-olds have had almost $3^{3/4}$ more years of schooling than the 9-year-olds. Likewise, since 17-year-olds are tested between March and May, they are between $16^{1/2}$ and $17^{1/2}$ at the time of the assessment (the difference is due to age being determined on a fiscal year basis); thus, they have had about $3^{3/4}$ more years of exposure to school than 13-year-olds.

These different means of determining a student's age and the various testing times have been adopted in order to measure a uniform period of growth among the three age/grade groups. Comparing age/grade cohorts over time can be more problematic, however. Nine-year-olds in 1990 generally represent the same age cohort as 13-year-olds in 1994—two points in time not quite 4 years apart. However, the 17-year-olds tested in 1994 were generally younger than the 1990 13-year-old age cohort was in 1994. Therefore, care must be taken when examining student cohorts across assessments in different years.

Short-term trend

Although *Indicator 18* (Trends in the mathematics proficiency of 9-, 13-, and 17-year-olds) focused primarily on the trend data described above, supplemental data from the *NAEP 1996 Mathematics Report Card* were also included. These more recent data allow for trend comparisons just over the short term, as only the scores from the 1990, 1992, and 1996 surveys are comparable. These data were based on a separate survey instrument than those from the long-term trend data and were given to different students. The short-term trend assessment was designed using a framework influenced by the National Council for Teachers of Mathematics (NCTM) Curriculum and Evaluation Standards for School Mathematics. The long-term trend assessment has remained unchanged since its original design in 1973 and can be used to make comparisons in the performance of students over the past 21 years. One important difference of the short-term trend data is that 4th-, 8th-, and 12th-graders were assessed rather than 9-, 13-, and 17-year-olds, thus allowing for comparisons across cohorts.

Table 16-1 Explanations of levels of writing proficiency

Level	Description
Level 350: Effective, coherent writing	The writing at this level provides clear complete responses to the assigned task. It tends to contain supportive details and discussion that contribute to the effectiveness of the response. This writing is also characterized by an overall unity and coherence not found at the lower levels.
Level 300: Complete, sufficient writing	Responses at this level tend to be complete and to contain sufficient information to accomplish the basic task.
Level 250: Beginning, focused, clear writing	Writing at this level tends to be more focused and clear, containing enough development and detail likely to accomplish the assigned task successfully.
Level 200: Incomplete, vague writing	The writing at this level, although clearer and more detailed than at the previous level, still tends to be vague and incomplete.
Level 150: Disjointed, unclear writing	Writing at this level tends to be too brief and disjointed to be considered a response to the task or, when longer, so vague and unclear that it is hard to understand.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Assessment of Educational Progress, *Trends in Academic Progress: Achievement of U.S. Students in Science, 1969 to 1994; Mathematics, 1973 to 1994; Reading, 1971 to 1994; Writing, 1984 to 1994*, 1996.

Table 16-2 Percentage of students at or above each of the five writing proficiency levels, by grade: 1984, 1988, 1990, 1992, and 1994

		Year				
Proficiency levels	Grade	1984	1988	1990	1992	1994
Level 350:	4	0	0	0	0	0
Effective, coherent	8	[1]0	0	[2]1	[1,2]2	[2]1
writing	11	2	[1]1	[1]4	2	3
Level 300:	4	1	1	0	0	0
Complete, sufficient	8	13	13	[1]12	[1,2]25	17
writing	11	39	[1]39	37	36	33
Level 250:	4	10	[2]15	12	13	12
Beginning, focused,	8	72	67	[1,2]57	[1]75	67
clear writing	11	[1]89	[1]93	[2]84	87	[2]85
Level 200:	4	54	56	53	58	56
Incomplete, vague	8	98	97	[1,2]93	98	96
writing	11	100	100	99	100	99
Level 150:	4	93	91	89	93	92
Disjointed, unclear	8	100	100	[2]100	100	100
writing	11	100	100	100	100	100

[1] Statistically significant difference from 1994.

[2] Statistically significant difference from 1984.

NOTE: See table 16-1 for further description of the proficiency levels.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Assessment of Educational Progress, *Trends in Academic Progress: Achievement of U.S. Students in Science, 1969 to 1994; Mathematics, 1973 to 1994; Reading, 1971 to 1994; Writing, 1984 to 1994*, 1996.

Table 16-3 Percentile distribution of writing proficiency scores, by grade and race/ethnicity: 1984, 1988, 1990, 1992, and 1994

	Grade 4					Grade 8					Grade 11				
Percentile	1984	1988	1990	1992	1994	1984	1988	1990	1992	1994	1984	1988	1990	1992	1994
								All students							
5	144	135	131	142	140	216	209	195	214	204	236	244	227	233	227
10	157	151	147	157	155	227	222	208	227	218	249	255	240	246	240
25	179	177	174	182	180	247	242	231	250	242	269	273	262	266	262
50	204	207	203	208	206	268	264	257	275	266	291	292	288	288	285
75	229	235	231	233	232	288	286	282	300	290	312	311	312	310	308
90	250	259	255	256	253	304	305	304	320	311	330	326	334	328	328
95	263	274	268	269	266	313	316	318	332	323	340	335	347	338	340
								White							
5	155	151	146	159	156	224	216	202	220	214	249	252	235	244	237
10	167	165	162	172	170	235	229	215	234	228	260	263	247	256	248
25	188	189	186	194	192	253	248	237	256	250	277	279	269	275	269
50	211	216	211	217	215	273	270	262	280	273	298	297	294	295	291
75	233	242	237	240	238	291	290	287	304	295	316	314	317	314	313
90	255	265	260	261	258	306	309	308	324	315	333	329	338	331	333
95	266	278	272	273	270	315	319	322	335	327	343	338	350	341	344
								Black							
5	124	109	105	117	114	201	194	182	200	190	222	232	213	216	214
10	135	122	120	130	127	212	205	193	212	201	232	243	225	226	226
25	160	148	144	152	150	228	226	216	232	222	252	258	245	245	246
50	182	173	172	176	173	248	247	240	257	245	270	276	268	264	267
75	205	200	198	198	196	265	266	263	282	268	290	294	291	283	289
90	228	224	223	218	217	281	285	284	306	288	309	309	311	300	309
95	240	238	239	229	231	292	296	297	319	300	318	318	324	309	320
								Hispanic							
5	130	125	120	132	131	197	199	187	203	192	208	228	217	220	212
10	141	139	135	144	143	207	210	199	219	204	216	236	232	234	224
25	162	163	159	166	164	225	230	220	242	227	238	256	253	252	250
50	188	191	184	189	188	247	251	246	265	252	260	274	275	275	273
75	214	218	210	213	213	268	271	270	288	276	281	294	301	294	294
90	234	241	234	234	234	286	290	292	310	298	297	309	324	314	313
95	247	256	248	247	245	298	301	305	324	308	306	316	338	324	327

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Assessment of Educational Progress, *Trends in Academic Progress: Achievement of U.S. Students in Science, 1969 to 1994; Mathematics, 1973 to 1994; Reading, 1971 to 1994; Writing, 1984 to 1994*, 1996.

Table 16-4 Average writing proficiency, by grade and parents' highest education level: 1984, 1988, 1990, 1992, and 1994

Parents' highest education level	Year	Grade 4		Grade 8		Grade 11	
		Percentage of students	Average proficiency	Percentage of students	Average proficiency	Percentage of students	Average proficiency
Less than a high school graduate	1984	[1]7	179	[1]10	258	11	274
	1988	5	194	8	254	8	276
	1990	6	186	8	246	8	268
	1992	[2]5	191	[2]7	258	8	271
	1994	[2]4	188	[2]7	250	8	268
Graduated high school	1984	[1]20	192	[1]35	261	[1]35	284
	1988	18	199	31	258	[1]30	285
	1990	18	197	[1]33	[2]252	30	278
	1992	[2]17	202	[2]29	[1,2]268	[2]27	278
	1994	[2]16	202	[2]27	259	[2]26	279
Some education after high school	1984	5	208	[1]10	271	[1]15	[1]298
	1988	5	211	11	275	18	[1]296
	1990	5	214	12	267	[2]18	292
	1992	6	201	[2]12	280	[2]20	292
	1994	5	212	[2]12	270	[2]20	[2]286
Graduated college	1984	[1]33	218	[1]36	278	[1]36	[1]300
	1988	[2]41	212	41	[2]270	41	[1]299
	1990	[2]40	[2]209	[1]38	[1,2]265	40	298
	1992	[2]42	214	[2]44	[1]284	[2]43	296
	1994	[2]43	212	[2]46	275	[2]44	[2]293

[1] Statistically significant difference from 1994.

[2] Statistically significant difference from 1984.

NOTE: "Percentage of students" represents the percentage of all students in each subgroup. Not shown are about one-third of students at age 9 and smaller percentages at ages 13 and 17 who did not know their parents' highest education level.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Assessment of Educational Progress, *Trends in Academic Progress: Achievement of U.S. Students in Science, 1969 to 1994; Mathematics, 1973 to 1994; Reading, 1971 to 1994; Writing, 1984 to 1994*, 1996.

Table 17-1 Average reading proficiency scores of students who read for fun, by frequency and age: Selected years 1984–94

	Age 9					Age 13					Age 17				
Frequency	1984	1988	1990	1992	1994	1984	1988	1990	1992	1994	1984	1988	1990	1992	1994
Almost every day	214	213	215	215	215	264	266	269	269	272	297	296	304	304	302
1-2 times a week	212	212	211	212	214	255	260	255	260	255	290	284	294	291	286
1-2 times a month	204	201	210	204	213	255	257	251	257	255	290	285	288	287	286
Few times a year	197	200	198	197	193	252	248	245	250	252	280	274	280	282	281
Never/hardly ever	198	198	192	189	193	239	241	247	246	237	269	277	266	268	258

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Assessment of Educational Progess, *Almanac: Reading, 1984 to 1994*, 1996.

Table 17-2 Percentage of students assigned various types of writing during the previous week, by English class assignment and grade: Selected years 1984–94

English class	Grade 4					Grade 8					Grade 11				
assignment	1984	1988	1990	1992	1994	1984	1988	1990	1992	1994	1984	1988	1990	1992	1994
Story	37.2	43.3	42.9	46.7	46.3	41.5	48.9	48.9	51.4	52.4	39.7	39.7	39.4	41.4	41.4
Essay	19.3	25.1	24.2	25.2	24.9	41.0	48.4	45.0	48.5	54.4	59.6	63.6	63.5	64.4	69.0
Poem	25.7	29.7	27.0	26.4	26.6	14.7	14.7	17.3	19.5	20.1	18.3	20.9	25.4	23.8	27.3
Play	13.9	15.6	14.1	15.1	14.2	10.4	12.2	11.7	11.8	13.8	12.6	11.3	14.1	11.5	12.9
Letter	38.5	38.7	42.5	38.8	39.3	20.8	25.3	24.4	26.9	29.3	15.9	19.6	18.2	19.3	21.6
Book report	36.1	40.5	38.2	37.8	38.1	35.4	34.8	33.9	33.7	35.0	30.4	30.7	28.2	28.4	28.1
Other reports	28.3	32.0	30.6	33.0	33.3	26.5	29.4	29.5	30.8	36.1	37.7	38.4	38.7	42.2	42.7

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Assessment of Educational Progess, *Almanac: Writing, 1984 to 1994*, 1996.

Table 17-3 Percentage of students who reported most recently having read various types of materials at school and at home, by type of material and age: Selected years 1984–94

	Age 9					Age 13					Age 17				
Type of material	1984	1988	1990	1992	1994	1984	1988	1990	1992	1994	1984	1988	1990	1992	1994
								At school							
Newspaper or magazine	4.3	4.5	4.4	5.3	5.5	4.8	4.0	5.6	5.2	5.2	6.4	6.1	6.2	6.4	6.4
Play	1.9	1.8	2.5	1.8	1.5	1.9	2.7	2.4	2.4	2.4	5.9	8.8	6.3	6.7	6.8
Poem	2.9	2.6	2.9	3.5	3.7	1.2	1.4	1.2	1.6	1.1	4.1	4.7	4.4	4.6	5.4
Story/novel	16.9	18.1	19.6	23.7	27.5	22.5	27.9	26.6	28.7	32.2	39.7	40.1	41.1	42.6	41.1
Science book	17.3	18.8	16.3	16.8	16.5	21.3	20.2	22.3	18.4	18.7	11.5	12.1	12.3	12.6	12.6
Social studies book	20.5	22.8	20.3	18.1	14.8	25.6	24.2	22.1	22.3	18.8	15.7	13.1	14.5	14.0	13.4
Mathematics book	17.5	15.3	16.6	15.2	14.6	16.2	14.8	15.2	16.3	16.8	11.1	11.1	11.5	10.4	10.7
Workbook	18.8	16.2	17.5	15.6	16.0	6.5	4.9	4.7	5.0	4.7	5.6	4.0	3.8	2.8	3.5
								At home							
Newspaper	8.9	7.0	5.7	6.1	5.5	16.3	12.7	11.8	12.3	11.5	25.7	23.5	23.1	24.9	20.7
Magazine	17.4	15.4	17.4	17.0	19.9	31.1	36.2	37.1	35.2	35.6	36.6	39.9	38.4	38.1	38.9
Play	3.2	2.8	2.6	2.4	1.6	0.8	0.9	0.9	1.2	0.8	0.8	0.7	0.6	0.8	0.8
Poem	5.8	4.3	5.5	6.4	5.1	1.3	1.8	2.0	2.0	1.5	1.7	2.2	2.3	2.7	2.5
Story/novel	36.5	37.6	37.2	42.9	39.4	39.0	36.9	36.9	40.8	40.5	29.3	27.3	28.4	26.7	30.3
Science book	3.8	4.8	3.8	3.7	3.3	1.6	1.2	1.3	1.3	1.4	1.1	0.8	1.0	1.0	0.9
Social studies book	3.3	3.1	3.2	2.8	2.2	1.5	1.5	1.4	1.0	1.1	0.5	0.5	0.4	0.8	0.3
Mathematics book	3.6	3.5	2.9	3.2	2.7	1.3	0.7	0.9	0.5	0.7	0.5	0.5	0.7	0.7	0.3
Workbook	4.4	3.4	2.8	2.9	3.4	0.7	0.5	0.3	0.4	0.4	0.2	0.2	0.1	0.2	0.3
Something else	13.0	18.0	19.0	12.5	16.9	6.4	7.6	7.3	5.4	6.5	3.6	4.5	5.1	4.2	4.9

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Assessment of Educational Progess, *Almanac: Reading, 1984 to 1994*, 1996.

Table 17-4 Percentage of students who reported reading various amounts per day in school and for homework, by pages read and age: Selected years 1984–94

Pages	Age 9					Age 13					Age 17				
read	1984	1988	1990	1992	1994	1984	1988	1990	1992	1994	1984	1988	1990	1992	1994
More than 20	12.9	15.5	14.4	18.7	17.3	10.5	12.6	11.3	14.4	14.2	20.3	20.8	20.2	22.3	23.2
16–20	13.3	13.5	12.9	13.6	14.4	10.9	12.6	11.1	12.8	12.6	14.4	13.9	13.6	13.7	13.3
11–15	13.9	15.0	13.7	13.5	14.4	17.5	17.8	16.3	18.8	16.6	18.0	18.4	18.0	17.3	17.6
6–10	24.9	28.1	25.1	25.1	25.7	34.6	32.9	34.4	31.1	31.1	26.2	25.5	25.6	26.5	25.3
5 or fewer	35.1	27.7	33.8	29.0	28.3	26.5	24.1	27.0	22.9	25.5	21.1	21.3	22.6	20.3	20.7

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Assessment of Educational Progess, *Almanac: Reading, 1984 to 1994*, 1996.

Table 18-1 Explanations of levels of mathematics proficiency

Level 350: Multi-step problem solving and algebra

Students at this level can apply a range of reasoning skills to solve multi-step problems. They can solve routine problems involving fractions and percents, recognize properties of basic geometric figures, and work with exponents and square roots. They can solve a variety of two-step problems using variables, identify equivalent algebraic expressions, and solve linear equations and inequalities. They are developing an understanding of functions and coordinate systems.

Level 300: Moderately complex procedures and reasoning

Students at this level are developing an understanding of number systems. They can compute with decimals, simple fractions, and commonly encountered percents. They can identify geometric figures, measure lengths and angles, and calculate areas of rectangles. These students are also able to interpret simple inequalities, evaluate formulas, and solve simple linear equations. They can find averages, make decisions on information drawn from graphs, and use logical reasoning to solve problems. They are developing the skills to operate with signed numbers, exponents, and square roots.

Level 250: Numerical operations and beginning problem solving

Students at this level have an initial understanding of the four basic operations. They are able to apply whole number addition and subtraction skills to one-step word problems and money situations. In multiplication, they can find the product of a two-digit and a one-digit number. They can also compare information from graphs and charts, and are developing an ability to analyze simple logical relations.

Level 200: Beginning skills and understandings

Students at this level have considerable understanding of two-digit numbers. They can add two-digit numbers, but are still developing an ability to regroup in subtraction. They know some basic multiplication and division facts, recognize relations among coins, can read information from charts and graphs, and use simple measurement instruments. They are developing some reasoning skills.

Level 150: Simple arithmetic facts

Students at this level know some basic addition and subtraction facts, and most can add two-digit numbers without regrouping. They recognize simple situations in which addition and subtraction apply. They also are developing rudimentary classification skills.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Assessment of Educational Progress, *Trends in Academic Progress: Achievement of U.S. Students in Science, 1969 to 1994; Mathematics, 1973 to 1994; Reading, 1971 to 1994; Writing, 1984 to 1994*, 1996.

Table 18-2 Average mathematics scale scores, by grade: 1990–96

Grade	1990	1992	1996
4th	213	[1]220	[1,2]224
8th	263	[1]268	[1,2]272
12th	294	[1]299	[1,2]304

[1] Statistically significant difference from 1990.

[2] Statistically significant difference from 1992.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *NAEP 1996 Mathematics Report Card for the Nation and the States: Findings from the National Assessment of Educational Progress*, 1997.

Table 18-3 Average mathematics scale scores of public school 4th- and 8th-graders, and change in scores from 1992, by grade and state: 1996

	Grade 4		Grade 8		
State or jurisdiction	Average scale score	Change from 1992 average scale score	Average scale score	Change from 1992 average scale score	Change from 1990 average scale score
Nation	**222**	**[2]4**	**271**	5	8
Alabama	212	3	257	4	4
Alaska[1]	224	—	278	—	—
Arizona[1]	218	2	268	3	[3]8
Arkansas	216	[2]6	262	[2]5	[3]5
California	209	1	263	2	[3]6
Colorado	226	[2]5	276	3	[3]8
Connecticut	232	[2]5	280	[2]6	[3]10
Delaware	215	[2]-3	267	[2]4	[3]6
District of Columbia	187	[2]-5	233	-2	1
Florida	216	2	264	4	[3]8
Georgia	215	0	262	3	4
Hawaii	215	1	262	[2]5	[3]11
Indiana	229	[2]8	276	[2]5	[3]8
Iowa[1]	229	-1	284	1	[3]6
Kentucky	220	[2]5	267	[2]4	[3]9
Lousiana	209	[2]5	252	2	[3]6
Maine	232	1	284	[2]5	—
Maryland	221	3	270	5	[3]9
Massachusetts	229	2	278	5	—
Michigan[1]	227	[2]6	277	[2]10	[3]12
Minnesota	232	[2]4	284	2	[3]9
Mississippi	208	[2]7	250	4	—
Missouri	225	3	273	2	—
Montana[1]	228	—	283	—	3
Nebraska	229	2	283	[2]5	[3]7
Nevada[1]	218	—	—	—	—
New Jersey[1]	228	0	—	—	—
New Mexico	214	1	262	2	[3]6
New York[1]	223	[2]4	270	4	[3]9
North Carolina	225	[2]11	268	[2]9	[3]17
North Dakota	231	2	284	1	3
Oregon	224	—	276	—	[3]5
Pennsylvania[1]	226	2	—	—	—
Rhode Island	220	[2]5	269	[2]3	[3]9

Table 18-3 Average mathematics scale scores of public school 4th- and 8th-graders, and change in scores from 1992, by grade and state: 1996—Continued

	Grade 4		Grade 8		
State or jurisdiction	Average scale score	Change from 1992 average scale score	Average scale score	Change from 1992 average scale score	Change from 1990 average scale score
South Carolina[1]	213	1	261	0	—
Tennessee	219	[2]8	263	4	—
Texas	229	[2]11	270	[2]6	[3]12
Utah	227	2	277	2	—
Vermont[1]	225	—	279	—	—
Virginia	223	2	270	2	[3]5
Washington	226	—	276	—	—
West Virginia	223	[2]8	265	[2]6	[3]9
Wisconsin	231	3	283	5	[3]8
Wyoming	223	-2	275	0	[3]3

— State did not participate in the assessment in one or more years.

[1] State did not satisfy one or more of the guidelines for school participation rates in 1996.

[2] Change between 1992 and 1996 is statistically significant at the .05 level.

[3] Change between 1990 and 1996 is statistically significant at the .05 level.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *NAEP 1996 Mathematics Report Card for the Nation and the States: Findings from the National Assessment of Educational Progress*, 1997.

Table 18-4 Percentage of students scoring at or above five levels of mathematics proficiency: 1978, 1982, 1986, 1990, 1992, and 1994

		Year					
Proficiency levels	Age	1978	1982	1986	1990	1992	1994
Level 350:	9	0	0	0	0	0	0
Multi-step problem	13	1	0	[2]0	[2]0	0	1
solving and algebra	17	7	[2]6	6	7	7	7
Level 300:	9	1	1	1	1	1	1
Moderately complex	13	18	17	[1]16	17	19	21
procedures and reasoning	17	[1]52	[1]48	[1]52	56	[2]59	[2]59
Level 250:	9	[1]20	[1]19	[1]21	[2]28	[2]28	[2]30
Numerical operations and	13	[1]65	[1,2]71	[2]73	[2]75	[2]78	[2]78
beginning problem solving	17	[1]92	[1]93	[2]96	[2]96	[2]97	[2]97
Level 200:	9	[1]70	[1]71	[1]74	[2]82	[2]81	[2]82
Beginning skills and	13	[1]95	[2]98	[2]99	[2]98	[2]99	[2]99
understandings	17	[1]100	[1]100	100	100	100	[2]100
Level 150:	9	[1]97	[1]97	[1,2]98	[2]99	[2]99	[2]99
Simple arithmetic	13	[1]100	100	100	100	100	[2]100
facts	17	100	100	100	100	100	100

[1] Statistically significant difference from 1994.

[2] Statistically significant difference from 1978.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Assessment of Educational Progress, *Trends in Academic Progress: Achievement of U.S. Students in Science, 1969 to 1994; Mathematics, 1973 to 1994; Reading, 1971 to 1994; Writing, 1984 to 1994*, 1996.

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Table 18-5 Average mathematics proficiency scores, by age and parents' highest education level: 1978, 1982, 1986, 1990, 1992, and 1994

		Age 9		Age 13		Age 17	
Parents' highest education level	Year	Percentage of students	Average proficiency	Percentage of students	Average proficiency	Percentage of students	Average proficiency
Less than high school graduate	1978	[1]8	[1]200	[1]12	[1]245	[1]13	280
	1982	[1]8	[1]199	[1]11	[2]251	[1]14	279
	1986	[2]4	201	[2]8	[2]252	[2]8	279
	1990	[2]5	[2]210	[2]8	[2]253	[2]8	285
	1992	[2]4	[2]217	[2]6	[2]256	[2]8	286
	1994	[2]4	[2]210	[2]6	[2]254	[2]7	284
Graduated from high school	1978	[1]23	[1]219	[1]33	263	[1]33	294
	1982	[1]25	[1]218	[1]34	263	[1]33	293
	1986	[2]16	[1]218	[1]31	263	[1,2]28	293
	1990	[2]16	[2]226	[1,2]27	263	[1,2]26	294
	1992	[2]14	222	[2]23	263	[2]21	298
	1994	[2]14	[2]225	[2]23	266	[2]22	295
Some education after high school	1978	[1]9	[1]230	[1]14	[1]273	[1]16	305
	1982	[1]9	[1]225	[1]14	275	[1]18	304
	1986	[2]7	[1]229	16	274	[2]24	305
	1990	7	236	[2]17	[2]277	[2]24	308
	1992	8	[2]237	[2]18	[2]278	[2]25	308
	1994	[2]7	[2]239	[2]17	[2]277	[2]24	305
Graduated from college	1978	[1]24	[1]231	[1]26	284	[1]32	317
	1982	[1,2]30	[1]229	[1,2]32	282	[1]32	[1,2]312
	1986	[1,2]38	[1]231	[1,2]38	[1]280	[1,2]37	314
	1990	[2]40	[2]238	[1,2]41	[1]280	[1,2]39	316
	1992	[2]42	[2]236	[2]44	283	[2]43	316
	1994	[2]45	[2]238	[2]46	285	[2]44	318

[1] Statistically significant difference from 1994.

[2] Statistically significant difference from 1978.

NOTE: "Percentage of students" represents the percentage of all students in each subgroup. Not shown are about one-third of students at age 9 and smaller percentages at ages 13 and 17 who did not know their parents' highest education level.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Assessment of Educational Progress, *Trends in Academic Progress: Achievement of U.S. Students in Science, 1969 to 1994; Mathematics, 1973 to 1994; Reading, 1971 to 1994; Writing, 1984 to 1994*, 1996.

Table 19-1 Explanations of levels of science proficiency

Level 350: Integrates specialized scientific information

Students at this level can infer relationships and draw conclusions using detailed scientific knowledge from the physical sciences, particularly chemistry. They also can apply basic principles of genetics and interpret the societal implications of research in this field.

Level 300: Analyzes scientific procedures and data

Students at this level can evaluate the appropriateness of the design of an experiment. They have more detailed scientific knowledge, and the skill to apply their knowledge in interpreting information from text and graphs. These students also exhibit a growing understanding of principles from the physical sciences.

Level 250: Applies general scientific information

Students at this level can interpret data from simple tables and make inferences about the outcomes of experimental procedures. They exhibit knowledge and understanding of the life sciences, including a familiarity with some aspects of animal behavior and of ecological relationships. These students also demonstrate some knowledge of basic information from the physical sciences.

Level 200: Understands simple scientific principles

Students at this level are developing some understanding of simple scientific principles, particularly in the life sciences. For example, they exhibit some rudimentary knowledge of the structure and function of plants and animals.

Level 150: Knows everyday science facts

Students at this level know some general scientific facts of the type that could be learned from everyday experiences. They can read simple graphs, match the distinguishing characteristics of animals, and predict the operation of familiar apparatus that work according to mechanical principles.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Assessment of Educational Progress, *Trends in Academic Progress: Achievement of U.S. Students in Science, 1969 to 1994; Mathematics, 1973 to 1994; Reading, 1971 to 1994; Writing, 1984 to 1994*, 1996.

Table 19-2 Percentage of students scoring at or above five levels of science proficiency: 1977, 1982, 1986, 1990, 1992, and 1994

		Year					
Proficiency level	Age	1977	1982	1986	1990	1992	1994
Level 350:	9	0	0	0	0	0	0
Integrates specialized	13	[1]1	0	[2]0	0	[2]0	[2]0
scientific information	17	9	[1]7	8	9	10	10
Level 300:	9	3	2	3	3	3	4
Analyzes scientific	13	11	10	9	11	12	12
procedures and data	17	[1]42	[1,2]37	[1]41	43	[2]47	[2]48
Level 250:	9	[1]26	[1]24	[1]28	[2]31	[2]33	[2]34
Applies general	13	[1]49	[1]51	[1]52	[1,2]56	[2]61	[2]60
scientific information	17	82	[1,2]77	81	81	83	83
Level 200:	9	[1]68	[1]71	[1,2]72	[2]76	[2]78	[2]77
Understands simple	13	[1]86	[1,2]90	[2]92	[2]92	[2]93	[2]92
scientific principles	17	97	96	97	97	98	97
Level 150:	9	[1]94	95	[1,2]96	[2]97	[2]97	[2]97
Knows everyday	13	[1]99	[2]100	[2]100	[2]100	[2]100	[2]100
science facts	17	100	100	100	100	[2]100	100

[1] Statistically significant difference from 1994.

[2] Statistically significant difference from 1977.

NOTE: Some scores were revised from previously published figures.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Assessment of Educational Progress, *Trends in Academic Progress: Achievement of U.S. Students in Science, 1969 to 1994; Mathematics, 1973 to 1994; Reading, 1971 to 1994; Writing, 1984 to 1994*, 1996.

Table 19-3 Percentile distribution of science proficiency scores, by age and race/ethnicity: 1977, 1982, 1986, 1990, 1992, and 1994

	Age 9						Age 13						Age 17					
Percentile	1977	1982	1986	1990	1992	1994	1977	1982	1986	1990	1992	1994	1977	1982	1986	1990	1992	1994
All students																		
5	144	151	155	160	163	161	174	185	189	191	193	191	213	203	212	210	218	212
10	161	167	170	176	178	177	191	200	203	206	209	207	231	222	230	229	234	232
25	190	194	196	202	204	203	218	224	227	230	235	233	261	252	260	260	264	265
50	222	221	225	230	232	233	249	251	252	256	260	259	291	285	290	292	296	297
75	251	249	253	257	258	260	278	277	276	281	284	283	320	315	319	323	327	326
90	276	272	277	279	281	282	302	299	298	302	303	303	346	342	344	348	350	350
95	291	286	291	292	294	295	317	313	310	315	315	314	362	357	360	363	364	363
White																		
5	163	167	166	177	178	177	191	198	204	209	213	212	231	223	228	233	234	238
10	178	182	181	190	192	191	205	211	216	220	226	225	246	239	245	249	251	254
25	202	204	206	213	214	215	229	233	237	241	246	245	270	266	271	273	277	280
50	230	229	233	238	240	242	256	258	259	264	268	267	298	294	299	301	306	308
75	257	255	259	262	264	266	283	282	282	287	289	289	325	321	325	329	333	334
90	281	278	282	284	285	286	307	303	302	307	307	307	350	346	349	352	355	356
95	295	291	295	296	298	300	321	316	314	319	318	318	365	361	364	367	368	369
Black																		
5	107	124	133	131	138	138	144	160	168	170	162	168	172	166	189	182	192	186
10	123	137	147	145	152	152	158	173	180	182	177	180	187	181	202	197	207	202
25	147	159	170	170	174	175	181	194	198	202	199	198	212	206	225	220	230	229
50	174	188	196	196	201	202	207	217	221	226	224	223	240	235	252	252	255	258
75	203	214	223	224	226	228	235	241	244	249	251	247	268	263	280	283	282	285
90	229	236	246	247	248	252	260	262	264	269	272	272	293	289	306	314	308	310
95	244	246	260	260	260	263	275	275	277	283	286	286	310	305	323	329	325	322
Hispanic																		
5	125	127	134	146	143	139	147	166	171	174	180	175	194	178	194	189	197	186
10	140	142	148	159	157	152	161	179	181	185	193	187	208	194	209	204	215	199
25	164	162	173	181	179	176	186	201	202	206	215	207	234	219	232	231	242	226
50	191	191	200	206	205	200	213	226	226	231	238	231	262	248	259	260	273	263
75	219	216	226	233	230	227	240	249	250	256	261	258	290	278	286	293	298	296
90	246	236	252	253	254	251	266	271	270	280	282	277	317	302	310	317	323	321
95	261	246	265	267	265	264	282	285	283	294	292	290	331	321	324	330	339	336

NOTE: Some scores were revised from previously published figures.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Assessment of Educational Progress, *Trends in Academic Progress: Achievement of U.S. Students in Science, 1969 to 1994; Mathematics, 1973 to 1994; Reading, 1971 to 1994; Writing, 1984 to 1994*, 1996.

Table 19-4 Average science proficiency, by age and parents' highest education level: 1977, 1982, 1986, 1990, 1992, and 1994

Parents' highest education level	Year	Age 9		Age 13		Age 17	
		Percentage of students	Average proficiency	Percentage of students	Average proficiency	Percentage of students	Average proficiency
Less than high school graduate	1977	[1]9	[1]198	[1]13	[1]224	[1]15	265
	1982	[1]6	198	[1,2]10	[1]225	[1]13	258
	1986	[2]4	204	[2]8	229	[2]8	258
	1990	[2]5	[2]210	[2]8	[2]233	[2]8	261
	1992	[2]4	[2]217	[2]6	[2]234	[2]8	262
	1994	[2]4	[2]211	[2]6	[2]234	[2]7	256
Graduated from high school	1977	[1]27	223	[1]33	245	[1]33	[1]284
	1982	[2]15	218	[2]26	243	[1,2]29	[2]275
	1986	[2]16	[1]220	[1]31	245	[1,2]28	[2]277
	1990	[2]16	226	[1,2]27	247	[1,2]26	[2]276
	1992	[2]14	222	[2]23	246	[2]21	280
	1994	[2]14	225	[2]23	247	[2]22	[2]279
Some education after high school	1977	7	237	15	260	[1]17	296
	1982	8	229	17	259	[2]22	[2]290
	1986	7	236	16	258	[2]24	295
	1990	7	238	17	263	[2]24	296
	1992	8	237	[2]18	[2]266	[2]25	296
	1994	7	239	[2]17	260	[2]24	295
Graduated from college	1977	[1]23	[1]232	[1]27	266	[1]30	309
	1982	[2]42	[1]230	[1,2]37	[1]264	[1]32	[1,2]300
	1986	[1,2]38	235	[1,2]38	264	[1,2]37	304
	1990	[1,2]40	236	[1,2]41	268	[1,2]39	306
	1992	[2]42	[2]239	[2]44	269	[2]43	308
	1994	[2]45	[2]238	[2]46	269	[2]44	311

[1] Statistically significant difference from 1994.

[2] Statistically significant difference from 1977.

NOTE: "Percentage of students" represents the percentage of all students in each subgroup. Not shown are approximately one-third of students at age 9 and smaller percentages at ages 13 and 17 who did not know their parents' highest education level.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Assessment of Educational Progress. *Trends in Academic Progress: Achievement of American Students in Science, 1969 to 1994; Mathematics 1973 to 1994; Reading, 1971 to 1994; Writing, 1984 to 1994*. 1996.

Note to Indicator 20: Data collection and sampling guidelines for TIMSS

All countries that participated in the Third International Mathematics and Science Study (TIMSS) were required to administer tests to students representing *Population 2*, defined as "students enrolled in the two adjacent grades that contained the largest proportion of 13-year-old students at the time of testing—seventh-and eighth-grade students in most countries."

In some situations, where it was not possible to implement testing for the entire International Desired Population (*Population 2*), countries were permitted to define a National Desired Population, which excluded some portion of the International Desired Population. For example, Israel's, Latvia's, and Lithuania's populations covered less than 100 percent of the International Desired Population because they needed to define their population according to the structure of school systems. In the case of Germany and Switzerland, however, some regions simply did not wish to participate in the study.

Country	*International Desired Population*	
	Coverage	*Note on Coverage*
Germany	88%	15 of 16 regions
Israel	74%	Hebrew Public Education System
Latvia	51%	Latvian-speaking schools
Lithuania	84%	Lithuanian-speaking schools
Switzerland	86%	22 of 26 cantons

Countries were also permitted to, within their desired population, define a population that excluded a small percentage (less than 10 percent) of schools or students that would be difficult to test (e.g., very small schools or schools located in a remote area). England was the only country that exceeded the 10 percent level, excluding 11.3 percent of schools from the desired population.

The TIMSS used a two-stage sample design, in which the first stage involved selecting 150 public and private schools within each country. Random sampling methods were then used to select one mathematics class and one science class from each school for each grade level (seventh and eighth). The required participation rates from the samples were at least 85 percent of both schools and students or a combined rate of 75 percent.

Compliance with Sampling Guidelines	*Countries*
Countries satisfying guidelines for sample participation rates, grade selection, and sampling procedures	Canada Cyprus Czech Republic France Hong Kong Hungary Iceland Iran, Islamic Rep. Ireland Japan Korea Latvia Lithuania New Zealand Norway Portugal Russian Federation Singapore Slovak Republic Spain Sweden
Countries satisfying guidelines for sample participation rates, with replacement schools	Belgium (Fl) England Germany United States
Countries not satisfying guidelines for sample participation rates	Australia Austria Belgium (Fr) Bulgaria Netherlands Scotland
Countries not meeting age/grade specifications	Colombia Germany Romania Slovenia
Countries with unapproved sampling procedures at the classroom level	Denmark Greece Israel Kuwait South Africa Thailand

Belgium (Fl), England, Germany, and the United States met sampling guidelines only after including replacement schools for those schools refusing or unable to participate. Australia, Austria, Belgium (Fr), Bulgaria, the Netherlands, and Scotland failed to meet sampling participation standards. These countries either did not reach a 50 percent participation rate without the inclusion of replacement schools, or failed to reach the required rate even with the inclusion of replacement schools.

Four countries (Colombia, Germany, Romania, and Slovenia) chose to test their seventh- and eighth-grade students even though these were not the two adjacent grade levels with the highest proportion of 13-year-olds. Although this was done in order to increase the similarity of curricula, it resulted in their students being somewhat older than the students from other countries who participated in the study.

Denmark, Greece, Israel, Kuwait, South Africa, and Thailand, for various reasons, had difficulty complying with guidelines for sampling classrooms. Kuwait tested a single grade with relatively few 13-year-olds, and South Africa and Thailand had low sampling participation rates, contributing to additional difficulties.

SOURCE: International Association for the Evaluation of Educational Achievement, TIMSS International Study Center, *Mathematics Achievement in the Middle School Years, Science Achievement in the Middle School Years, IEA's Third International Mathematics and Science Study (TIMSS)*, 1996.

Table 21-1 Percentage distribution of the population in selected age groups scoring at each of the five literacy levels, by literacy scale and country: 1994

Country	Prose scale					Document scale					Quantitative scale				
and age	Total	Level 1	Level 2	Level 3	Level 4/5	Total	Level 1	Level 2	Level 3	Level 4/5	Total	Level 1	Level 2	Level 3	Level 4/5
Canada															
16-25	100.0	10.7	25.7	43.7	19.9	100.0	10.4	22.3	36.4	31.0	100.0	10.1	28.6	44.6	16.7
26-35	100.0	12.3	28.5	33.1	26.1	100.0	13.5	25.3	33.8	27.5	100.0	12.0	25.5	35.1	27.5
36-45	100.0	13.3	18.6	36.8	31.3	100.0	13.8	22.0	36.8	27.4	100.0	11.9	22.4	35.6	30.1
46-55	100.0	20.6	30.2	30.9	18.4	100.0	23.0	31.0	23.6	22.4	100.0	23.9	32.2	24.8	19.0
56-65	100.0	37.6	26.4	28.0	8.1	100.0	43.8	23.7	23.8	8.7	100.0	39.7	21.5	31.4	7.4
Germany															
16-25	100.0	8.9	29.5	46.2	15.4	100.0	5.2	29.0	43.0	22.8	100.0	4.4	26.4	47.1	22.0
26-35	100.0	12.4	30.6	37.3	19.7	100.0	5.9	29.2	40.0	24.9	100.0	4.9	23.3	42.9	28.9
36-45	100.0	14.5	31.5	39.4	14.5	100.0	9.5	30.6	38.5	21.4	100.0	6.5	22.9	44.3	26.3
46-55	100.0	14.2	37.4	37.5	10.9	100.0	7.4	35.0	43.1	14.5	100.0	7.0	27.1	41.2	24.7
56-65	100.0	22.1	43.2	30.1	4.7	100.0	17.7	40.9	32.6	8.8	100.0	10.8	34.9	40.8	13.5
Netherlands															
16-25	100.0	8.3	22.1	50.1	19.5	100.0	6.1	16.8	51.1	26.0	100.0	7.7	21.0	50.1	21.1
26-35	100.0	6.4	20.5	50.6	22.5	100.0	5.9	19.2	45.7	29.3	100.0	6.7	19.9	45.3	28.2
36-45	100.0	8.6	30.4	46.6	14.3	100.0	9.2	24.2	49.5	17.1	100.0	10.1	25.0	46.0	18.9
46-55	100.0	13.9	38.8	37.5	9.8	100.0	12.6	35.7	38.0	13.7	100.0	12.8	31.0	39.8	16.4
56-65	100.0	20.1	47.5	27.7	4.7	100.0	22.6	40.5	30.1	6.8	100.0	17.6	36.2	36.9	9.3
Poland															
16-25	100.0	26.7	38.3	29.1	5.9	100.0	32.2	33.1	26.2	8.5	100.0	29.6	32.6	31.0	6.7
26-35	100.0	35.0	39.0	22.2	3.7	100.0	39.2	33.8	19.7	7.4	100.0	32.7	33.0	25.6	8.7
36-45	100.0	42.0	38.0	17.2	2.8	100.0	42.6	33.6	18.1	5.7	100.0	36.1	32.1	23.4	8.4
46-55	100.0	53.5	29.6	16.0	1.0	100.0	55.6	27.0	13.3	4.1	100.0	47.7	26.9	19.5	5.9
56-65	100.0	69.5	20.5	9.8	0.2	100.0	70.1	20.9	7.6	1.4	100.0	60.8	21.4	15.6	2.2
Sweden															
16-25	100.0	3.8	16.7	39.8	39.7	100.0	3.1	16.6	39.6	40.7	100.0	4.9	17.6	39.0	38.4
26-35	100.0	4.9	14.2	39.2	41.7	100.0	3.9	10.4	38.1	47.6	100.0	4.0	14.3	36.3	45.4
36-45	100.0	7.1	19.7	41.5	31.7	100.0	6.6	18.2	39.8	35.4	100.0	7.0	16.5	41.2	35.2
46-55	100.0	8.2	21.8	41.8	28.2	100.0	6.8	19.7	43.1	30.3	100.0	5.8	19.7	40.5	34.0
56-65	100.0	15.9	32.7	35.3	16.2	100.0	12.2	33.3	36.0	18.5	100.0	12.9	27.0	37.5	22.6
Switzerland (French)															
16-25	100.0	10.5	31.0	43.1	15.4	100.0	8.7	24.9	40.4	26.0	100.0	6.2	21.4	47.0	25.4
26-35	100.0	11.1	29.4	46.5	13.0	100.0	11.5	22.4	44.5	21.6	100.0	8.8	20.6	47.8	22.9
36-45	100.0	22.1	33.5	35.5	8.9	100.0	19.2	32.9	34.2	13.7	100.0	16.6	25.2	36.4	21.8
46-55	100.0	20.9	35.1	36.1	7.9	100.0	18.0	29.8	42.4	9.7	100.0	16.1	22.7	43.2	18.0
56-65	100.0	27.7	43.3	26.8	2.3	100.0	27.5	38.1	29.8	4.6	100.0	19.2	36.0	33.8	11.0
Switzerland (German)															
16-25	100.0	7.3	35.5	43.4	13.8	100.0	7.1	25.7	41.0	26.3	100.0	6.9	21.9	48.2	22.9
26-35	100.0	16.6	26.8	44.6	12.0	100.0	17.4	20.7	38.8	23.1	100.0	13.1	20.7	40.8	25.4
36-45	100.0	24.2	34.3	32.4	9.1	100.0	21.5	30.3	36.3	12.0	100.0	19.0	26.3	37.9	16.9
46-55	100.0	19.4	41.7	34.7	4.2	100.0	21.0	33.8	35.0	10.2	100.0	14.8	28.5	41.2	15.5
56-65	100.0	30.4	46.0	19.5	4.1	100.0	22.8	39.9	30.6	6.7	100.0	15.8	37.6	35.7	10.8
United States															
16-25	100.0	—	—	—	—	100.0	—	—	—	—	100.0	—	—	—	—
26-35	100.0	19.6	23.2	35.7	21.6	100.0	21.6	22.9	34.5	21.0	100.0	20.1	20.9	35.6	23.5
36-45	100.0	19.5	21.4	30.0	29.2	100.0	23.5	19.7	31.4	25.4	100.0	18.2	23.2	26.9	31.6
46-55	100.0	18.3	25.7	32.2	23.8	100.0	21.4	28.2	33.2	17.3	100.0	19.0	25.2	32.3	23.6
56-65	100.0	23.6	30.7	31.1	14.7	100.0	29.3	32.9	26.0	11.7	100.0	22.4	29.6	32.0	16.0

— Data for this age group are inaccurate due to sampling and non-response problems.

NOTE: Details may not add to totals due to rounding.

SOURCE: Organization for Economic Co-operation and Development and Statistics Canada, *Literacy, Economy and Society, Results of the International Adult Literacy Survey*, 1995.

Table 21-2 Percentage distribution of the population in selected occupations scoring at each of the five literacy levels, by literacy scale and country: 1994

Country and occupation	Prose scale					Document scale					Quantitative scale				
	Total	Level I	Level 2	Level 3	Level 4/5	Total	Level I	Level 2	Level 3	Level 4/5	Total	Level I	Level 2	Level 3	Level 4/5
Canada															
Manager/professional	100.0	3.2	17.4	36.5	42.9	100.0	2.6	14.9	32.4	50.1	100.0	2.2	15.0	36.4	46.4
Technician	100.0	4.3	26.4	26.3	43.0	100.0	3.5	12.1	58.6	25.9	100.0	3.9	17.7	33.4	45.0
Clerk	100.0	6.0	27.8	51.2	15.1	100.0	8.2	26.8	36.7	28.3	100.0	4.9	34.6	40.7	19.7
Sales/service	100.0	10.9	29.2	34.5	25.4	100.0	16.4	29.7	29.0	24.8	100.0	15.2	30.7	40.8	13.4
Skilled crafts workers	100.0	29.7	23.1	33.4	13.8	100.0	24.7	30.5	28.8	16.1	100.0	22.2	34.5	29.3	13.9
Machine operator/assembler	100.0	29.1	19.6	39.9	11.4	100.0	27.7	31.3	26.4	14.6	100.0	29.0	28.6	33.7	8.8
Agriculture/primary	100.0	18.6	27.9	39.6	13.8	100.0	17.5	31.4	32.7	18.4	100.0	21.2	25.0	36.1	17.7
Germany															
Manager/professional	100.0	4.5	19.1	44.4	32.0	100.0	1.5	20.0	36.4	42.1	100.0	1.9	14.1	37.3	46.7
Technician	100.0	3.9	22.9	49.0	24.2	100.0	2.3	14.0	54.2	29.6	100.0	1.7	15.4	51.6	31.3
Clerk	100.0	9.6	39.0	38.9	12.5	100.0	5.4	31.1	44.2	19.3	100.0	5.2	26.1	45.6	23.1
Sales/service	100.0	10.4	36.9	36.3	16.5	100.0	5.5	37.3	39.3	17.9	100.0	5.0	25.2	44.5	25.3
Skilled crafts workers	100.0	14.4	35.6	42.9	7.1	100.0	6.7	33.0	46.5	13.7	100.0	3.2	23.8	48.2	24.8
Machine operator/assembler	100.0	21.6	52.8	20.0	5.7	100.0	11.7	48.3	32.1	7.8	100.0	11.2	40.6	36.0	12.3
Agriculture/primary	100.0	36.8	31.3	28.0	3.9	100.0	19.0	39.1	28.7	13.2	100.0	17.6	27.2	38.5	16.7
Netherlands															
Manager/professional	100.0	3.2	20.0	52.1	24.7	100.0	2.3	17.1	52.5	28.0	100.0	1.9	15.1	48.9	34.2
Technician	100.0	2.7	19.6	54.4	23.3	100.0	2.6	15.1	49.6	32.7	100.0	2.9	17.4	50.7	29.0
Clerk	100.0	6.0	24.2	53.2	16.5	100.0	5.0	20.3	55.1	19.5	100.0	4.5	26.7	51.9	16.8
Sales/service	100.0	8.5	29.5	44.2	17.8	100.0	7.1	24.1	49.0	19.8	100.0	7.8	24.1	47.1	21.0
Skilled crafts workers	100.0	10.4	44.6	37.8	7.1	100.0	9.1	36.2	39.1	15.6	100.0	10.1	31.9	44.4	13.6
Machine operator/assembler	100.0	19.1	36.5	36.8	7.6	100.0	12.8	33.4	36.2	17.5	100.0	13.4	24.8	41.5	20.3
Agriculture/primary	100.0	16.9	31.6	43.1	8.4	100.0	16.4	24.2	43.7	15.7	100.0	18.3	27.2	44.0	10.4
Poland															
Manager/professional	100.0	13.1	31.2	40.9	14.8	100.0	19.2	28.4	33.9	18.4	100.0	11.5	26.3	37.5	24.7
Technician	100.0	23.4	45.1	28.0	3.6	100.0	22.2	39.2	29.8	8.8	100.0	18.5	32.7	36.1	12.7
Clerk	100.0	25.1	43.3	28.5	3.1	100.0	33.1	31.7	28.1	7.1	100.0	27.5	31.7	29.5	11.3
Sales/service	100.0	30.5	43.4	22.0	4.2	100.0	34.3	32.9	25.8	6.9	100.0	28.2	36.8	28.1	6.8
Skilled crafts workers	100.0	47.2	38.6	14.0	0.3	100.0	47.1	30.4	16.6	5.9	100.0	41.8	29.3	24.2	4.6
Machine operator/assembler	100.0	48.7	35.0	15.7	0.5	100.0	57.7	27.3	12.7	2.3	100.0	42.7	31.0	19.8	6.5
Agriculture/primary	100.0	62.9	27.8	8.5	0.7	100.0	60.5	29.3	8.9	1.3	100.0	54.3	28.5	15.2	2.0
Sweden															
Manager/professional	100.0	2.4	12.1	38.4	47.0	100.0	1.6	13.7	38.2	46.4	100.0	1.5	15.4	37.0	46.1
Technician	100.0	3.3	16.5	43.1	37.1	100.0	2.8	14.8	41.7	40.8	100.0	3.5	15.0	41.5	40.0
Clerk	100.0	3.4	18.5	43.2	35.0	100.0	2.2	15.8	41.1	40.9	100.0	3.9	14.7	42.1	39.4
Sales/service	100.0	6.6	22.4	38.8	32.1	100.0	5.9	21.5	41.3	31.3	100.0	7.3	21.4	39.8	31.5
Skilled crafts workers	100.0	10.0	26.4	42.5	21.1	100.0	8.4	17.3	44.5	29.8	100.0	6.4	19.5	44.0	30.0
Machine operator/assembler	100.0	7.7	27.5	41.4	23.4	100.0	7.3	19.3	45.3	28.1	100.0	7.9	16.1	42.0	34.0
Agriculture/primary	100.0	11.6	30.0	39.4	19.0	100.0	11.0	25.5	37.8	25.8	100.0	8.0	26.5	39.1	26.4
Switzerland (French)															
Manager/professional	100.0	7.0	17.3	53.3	22.4	100.0	5.4	15.9	49.0	29.7	100.0	4.0	10.8	44.8	40.5
Technician	100.0	8.4	29.5	48.5	13.5	100.0	6.9	30.4	47.9	14.8	100.0	3.7	18.7	57.6	20.0
Clerk	100.0	3.5	39.1	45.7	11.6	100.0	6.3	31.2	46.1	16.4	100.0	3.2	25.1	52.0	19.6
Sales/service	100.0	27.0	45.7	24.6	2.6	100.0	16.7	39.5	34.9	8.9	100.0	19.7	36.3	34.4	9.6
Skilled crafts workers	100.0	25.2	35.7	37.7	1.4	100.0	21.8	28.8	32.0	17.3	100.0	12.2	28.4	40.3	19.0
Machine operator/assembler	100.0	28.0	30.4	31.9	9.7	100.0	27.9	34.7	23.3	14.1	100.0	27.4	31.5	33.0	8.2
Agriculture/primary	100.0	24.8	48.2	24.2	2.8	100.0	19.6	45.1	28.5	6.7	100.0	18.6	39.0	36.7	5.7

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Table 21-2 Percentage distribution of the population in selected occupations scoring at each of the five literacy levels, by literacy scale and country: 1994—Continued

Country and occupation	Prose scale					Document scale					Quantitative scale				
	Total	Level I	Level 2	Level 3	Level 4/5	Total	Level I	Level 2	Level 3	Level 4/5	Total	Level I	Level 2	Level 3	Level 4/5
Switzerland (German)															
Manager/professional	100.0	5.1	31.4	50.4	13.0	100.0	5.0	28.6	44.0	22.4	100.0	3.6	16.5	49.8	30.1
Technician	100.0	3.5	29.9	52.6	14.0	100.0	4.4	22.4	47.7	25.4	100.0	2.6	20.5	49.4	27.5
Clerk	100.0	6.3	38.0	40.4	15.3	100.0	7.1	32.0	42.4	18.5	100.0	8.5	26.4	45.4	19.7
Sales/service	100.0	15.9	44.3	34.7	5.0	100.0	20.1	38.1	36.0	5.8	100.0	12.1	38.8	38.2	10.9
Skilled crafts workers	100.0	24.8	46.5	26.2	2.4	100.0	22.0	36.8	32.7	8.5	100.0	11.5	36.5	39.5	12.5
Machine operator/assembler	100.0	40.1	35.9	24.0	0.0	100.0	30.6	27.3	31.0	11.1	100.0	27.9	24.5	39.6	8.1
Agriculture/primary	100.0	33.3	43.9	20.5	2.3	100.0	31.3	31.9	24.6	12.2	100.0	26.2	32.7	27.0	14.0
United States															
Manager/professional	100.0	3.9	15.6	37.0	43.4	100.0	5.1	14.9	41.0	39.1	100.0	3.7	14.1	36.6	45.6
Technician	100.0	2.4	16.3	47.3	34.0	100.0	4.2	17.0	48.7	30.1	100.0	2.3	10.8	44.4	42.5
Clerk	100.0	7.3	29.8	41.7	21.2	100.0	11.1	34.0	33.1	21.8	100.0	10.6	31.7	35.5	22.1
Sales/service	100.0	24.2	26.1	32.3	17.4	100.0	26.6	25.4	32.8	15.2	100.0	25.1	28.5	29.3	17.2
Skilled crafts workers	100.0	29.4	38.0	25.5	7.1	100.0	29.9	37.6	25.0	7.4	100.0	28.7	31.5	28.9	10.9
Machine operator/assembler	100.0	28.9	36.9	27.8	6.3	100.0	35.4	32.2	25.8	6.6	100.0	30.4	30.9	27.5	11.2
Agriculture/primary	100.0	31.7	21.2	24.5	22.7	100.0	36.4	12.2	27.3	24.1	100.0	33.6	9.5	42.5	14.4

NOTE: Details may not add to totals due to rounding.

SOURCE: Organization for Economic Co-operation and Development and Statistics Canada. *Literacy, Economy and Society, Results of the International Adult Literacy Survey,* 1995.

Note to Indicator 21: Definitions of literacy scales and levels

This analysis reports the results of a wide-ranging test of literacy skills given to a large sample of adults (ranging from 1,500 to 1,800 per country) in Europe and North America in fall 1994. The International Adult Literacy Survey (IALS) was a collaborative effort among seven governments and three intergovernmental organizations. Each country was required to draw a probability sample that could be representative of the civilian, noninstitutionalized population aged 16–65. In six countries, the survey was conducted in the national language; in Canada, respondents were given a choice of taking the survey in either English or French; in Switzerland, respondents in French-speaking and German-speaking cantons responded to survey questions in their respective languages.

As literacy cannot be narrowed down to a single skill suited for dealing with all types of text, nor defined as an infinite set of skills, the IALS defined literacy in terms of three scales, each encompassing a common set of skills relevant for diverse tasks:

Prose literacy: The knowledge and skills required to understand and use information from texts, including editorials, news stories, poems, and fiction;

Document literacy: The knowledge and skills required to locate and use information contained in various formats, including job applications, payroll forms, transportation schedules, maps, tables, and graphics; and

Quantitative literacy: The knowledge and skills required to apply arithmetic operations, either alone or sequentially, to numbers embedded in printed materials, such as balancing a checkbook, figuring a tip, completing an order form, or determining the amount of interest on a loan from an advertisement.

In each of these three scales, rather than expressing a threshold for achieving literacy, a scale from 0–500 was constructed, upon which tasks of varying difficulty were placed. These scales were developed through the item response theory (IRT) scaling procedures. First, the difficulty of tasks was ranked on a scale according to how well respondents actually performed. Then, each scale was divided into five levels, reflecting the empirically determined progression of information-processing skills and strategies. Next, individuals were assigned scores between 0 and 500 according to how well they performed on a variety of tasks at different levels. Finally, the percentage of readers falling into each skill level was calculated.

A person's ability in each literacy scale can be expressed by a score, defined as the point at which he or she has an 80 percent chance of successfully performing a given task. If a person scores at level 2, it means that this individual has an 80 percent chance of successfully performing level 2 tasks and a greater than 80 percent chance of performing level 1 tasks. It does not mean, however, that individuals with low proficiency cannot succeed at tasks that are rated at higher skill levels—only that the probability of their success is relatively low. Below is a description of the three literacy scales and the tasks required at each proficiency level:

Prose literacy includes text from newspapers, magazines, and brochures accompanied by one or more questions or directives asking the reader to perform specific tasks. These tasks represent three major aspects of information processing: locating, integrating, and generating. Locating tasks require the reader to find information in the text based on conditions or features specified in the question or directive. Integrating tasks ask the reader to pull together two or more pieces of information in the text. Generating tasks ask the reader to produce a written response by processing information from the text, making text-based references, and drawing on background knowledge.

Prose Level 1 (Difficulty values 0–225). Most of the tasks at this level require the reader to locate and match a single piece of information in the text that is identical to or synonymous with the information given in the directive. If a plausible incorrect answer is present in the text, it tends not to be near the correct information.

Prose Level 2 (Difficulty values 226–275). Tasks at this level tend to require the reader to locate one or more pieces of information in the text; however, several distracters may be present and the reader may need to make low-level inferences. Tasks at this level also begin to ask readers to integrate two or more pieces of information, or to compare and contrast information.

Prose Level 3 (Difficulty values 276–325). Tasks at this level tend to direct readers to search the text to match information, requiring the reader to make low-level inferences or to locate text that meets specified conditions. Sometimes the reader is required to identify several pieces of information that are located in different sentences or paragraphs rather than search for information located in a single sentence. Readers may also be asked to integrate or to compare and contrast information across paragraphs or sections of text.

Prose Level 4 (Difficulty values 326–375). These tasks require readers to perform multiple-feature matching or to provide several responses where the requested information must be identified through text-based inferences. Tasks at this level may also require the reader to integrate or contrast pieces of information that are sometimes presented in relatively lengthy texts. Typically, these texts contain more distracting information, and the information that is requested is more abstract.

Prose Level 5 (Difficulty values 376–500). Some tasks at this level require the reader to search for information in dense text that contains a number of plausible distracters. Some tasks require readers to make high-level inferences or use specialized knowledge.

Document literacy involves using materials such as tables, schedules, charts, graphs, maps, and forms. Questions or directives associated with the various document tasks are categorized into four basic types: locating, cycling, integrating, and generating. Locating, integrating, and generating refer to the same skills as those in prose literacy. Cycling tasks require the reader to locate and match one or more features of information, but differ from locating tasks in that they require the reader to engage in a series of feature matches to satisfy conditions given in the question.

Document Level 1 (Difficulty values 0–225). Most of the tasks at this level require the reader to locate a piece of information based on a literal match. Distracting information, if present, is typically located away from the correct answer. Some tasks may direct the reader to enter personal information onto a form.

Document Level 2 (Difficulty values 226–275). Document tasks at this level are more varied. While some still require the reader to match a single feature, more distracting information may be present, and the match may require a low-level inference. Some tasks at this level may require the reader to enter information onto a form or to cycle through information in a document.

Document Level 3 (Difficulty values 276–325). Tasks at this level appear to be the most varied. Some require the reader to make identical or synonymous matches; however, these matches usually require the reader to take conditional information into account or to match multiple features of information.

Document Level 4 (Difficulty values 326–375). Tasks at this level, like those in the previous levels, ask the reader to match multiple features of information, to cycle through documents, and to integrate information; frequently, these tasks require the reader to make higher order inferences to arrive at the correct answer. Sometimes the reader must take conditional information into account.

Document Level 5 (Difficulty values 376–500). Tasks at this level require the reader to search through complex displays of information that contain multiple distracters, make high-level inferences, process conditional information, or use specialized knowledge.

Quantitative literacy involves using numbers and arithmetic operations to complete a task. These tasks require the reader to locate and extract numbers from different types of documents that contain similar but irrelevant information, infer numbers from printed directions, or calculate numbers using multiple operations.

Quantitative Level 1 (Difficulty values 0–225). Although no quantitative tasks used in the IALS fall below the score of 225, experience suggests that such tasks would require the reader to perform a single, relatively simple operation (usually addition) for which either the numbers are already entered into the given document and the operation is stipulated, or the numbers are provided and the operation does not require the reader to borrow.

Quantitative Level 2 (Difficulty values 226–275). Tasks at this level typically require readers to perform a single arithmetic operation (frequently addition or subtraction) using numbers that are easily located in the text or document. The operation to be performed may be easily inferred from the wording of the question or the format of the material (for example, a bank deposit form or an order form).

Quantitative Level 3 (Difficulty values 276–325). Tasks at this level typically require the reader to perform a single operation. However, the operations are more varied—some multiplication and division tasks are found at this level. Sometimes two or more numbers are needed to solve the problem, and the numbers are frequently embedded in more complex displays. While semantic relation terms such as "how many" or "calculate the difference" are often used, some of the tasks require the reader to make higher order inferences to determine the appropriate operation.

Quantitative Level 4 (Difficulty values 326–375). With one exception, the tasks at this level require the reader to perform a single arithmetic operation in which the quantities or the operations are not easily determined. That is, for most of the tasks at this level, the question or directive does not provide a semantic relation term such as "how many" or "calculate the difference" to help the reader.

Quantitative Level 5 (Difficulty values 376–500). Tasks at this level require readers to perform multiple operations sequentially; the reader must pull out the features of the problem from the material provided or rely on background knowledge to determine the quantities or operations needed.

SOURCE: Organization for Economic Co-operation and Development and Statistics Canada, *Literacy, Economy and Society, Results of the International Adult Literacy Survey,* 1995.

Note to Indicator 22: Educational attainment

The Current Population Survey (CPS), which is used for *Indicators 22, 32, 33*, and others, changed the questions used to obtain a respondent's educational attainment beginning in 1992. Before 1992, the educational attainment questions were 1) "What is the highest grade or year of regular school...has ever attended?" and 2) "Did ...complete the grade?" There were 19 response categories for grades 1–8, for the 1st–4th year of high school, and for the 1st–6th year of college.

If respondents attended grade 12, for example, but did not complete it, it was assumed that they had completed grade 11. If the highest grade respondents had completed was 9, 10, or 11, they were classified as high school dropouts. If the highest grade completed was 12 or greater, they were considered to have completed high school. If they had completed the 4th year of college or greater, they were considered to have completed college.

Beginning in 1992, the two questions were changed to a single question: "What is the highest level of school...has completed or the highest degree...has received?" In the new response categories, several of the lower levels were collapsed into a single summary category such as "1st, 2nd, 3rd, or 4th grades." At the high school level, a new category "12th grade, no diploma" was added. The biggest change was in the categories for high school completion and beyond, which are as follows:

- High school graduate, high school diploma or equivalent (e.g., GED);
- Some college but no degree;
- Associate's degree in college, academic program;
- Associate's degree in college, occupational or vocational program;
- Bachelor's degree (e.g., B.A., A.B., B.S.);
- Master's degree (e.g., M.A., M.S., M.Eng., M.Ed., M.S.W., M.B.A.);
- Professional school degree (e.g., M.D., D.D.S., D.V.M., L.L.B., J.D.); and
- Doctor's degree (e.g., Ph.D., Ed.D.).

The new question puts more emphasis on credentials received beginning at the high school level and puts less emphasis on the level attended or completed in college if that attendance did not lead to a credential.

This change created some uncertainty about the comparability of measures, such as high school completion rates and college completion rates over time. Below is a discussion of the possible effects the new question may have on high school and college completion rates.

High school completion: The earlier educational attainment question did not explicitly address high school equivalency certificates. Therefore, it is possible that an individual who attended grade 10, dropped out without completing that grade, and later took the GED test and received a high school equivalency credential would not have been counted as completing high school. The new question, however, explicitly treats these individuals as high school graduates. Since 1988, an additional question has been added to the October CPS to explicitly ask respondents whether they had taken the GED. The vast majority of those who responded "yes" were classified as high school graduates using the educational attainment question.

The earlier educational attainment question treated individuals who completed grade 12 as high school graduates. However, the new question added a new response category called "12th grade, no diploma," and these respondents were not treated as graduates. However, the number of individuals in this category historically has been very small. In summary, it appears that the question change has had minor effects on measured high school completion rates.

College completion: With the increasing prevalence of individuals taking more than 4 years to earn a bachelor's degree, some researchers are concerned that the college completion rate based on the category "4th year or higher of college completed" would overstate the bachelor's degree (or higher) completion rate. However, the college completion rates among those aged 25–29 in 1992 and 1993 using the new CPS question were very similar to the completion rates for those in 1990 and 1991 using the old questions. In summary, it appears that the question change has had a very small effect on measured college completion rates.

Some college: With the new question, someone who attends college for only a few months should respond "some college," but with the old question they should have responded "attended first year of college and did not complete it." In the past, the calculation of the percentage of the population with 1–3 years of college excluded these individuals. However, with the new question, the information to exclude them is not available, and those with only a few months of college are included in the "some college" category. So, in principle, the percentage of individuals with "some college" or an associate's degree would be expected to be larger than the percentage with 1–3 years of college. Therefore, it does not appear useful to compare the percentage of those with "some college or an associate's degree" using the new question, to the percentage of those who completed "1–3 years of college" using the old question.

Indicators 32 and *33* use labor force statistics for the civilian population and annual median earnings for wage and salary workers with different levels of educational attainment. The discussion above suggests that the "high school graduate with no further education" category based on the new item is larger than before, because it includes all those with an equivalency certificate; however, it is actually smaller than before because it excludes those who completed "12th grade, no diploma" and those with only a few months of college. The latter group is now included in the "1–3 years of college" category.

Nevertheless, the employment and earnings of the respondents who have been added and dropped from each category are similar; therefore, the net effect of the misclassification on employment rates and average annual earnings is likely to be minor. For this reason, it is still useful to compare the employment rates and median annual earnings of recent cohorts with "some college or an associate's degree" to older cohorts who completed "1–3 years of college."

For further information on this issue, see Robert Kominski and Paul M. Siegel, "Measuring Education in the Current Population Survey," *Monthly Labor Review*, September 1993.

Table 23-1 Percentage of the population who had completed secondary and higher education, by sex, country, and age: 1994

Country	Total		Male		Female	
	Secondary education[1]	Higher education	Secondary education[1]	Higher education	Secondary education[1]	Higher education
			25–64 years old			
Large countries						
Canada	74.1	16.9	73.6	18.5	74.5	15.2
France[2]	67.1	9.2	71.3	10.6	63.0	7.9
Germany	84.0	12.6	90.0	15.7	77.7	9.3
Italy	33.2	7.5	35.0	8.5	31.4	6.5
Japan[3]	69.7	13.3	70.9	21.5	68.5	5.2
United Kingdom	74.5	11.7	80.1	14.8	68.9	8.6
United States	85.1	24.4	84.7	26.7	85.6	22.3
Other countries						
Australia	50.2	13.4	60.1	14.2	40.3	12.6
Austria	68.1	5.6	75.4	7.2	60.7	4.1
Belgium	49.4	10.1	50.8	13.0	47.9	7.2
Denmark	60.0	13.7	64.1	14.2	55.8	13.1
Finland	63.6	10.9	62.8	12.5	64.4	9.2
Greece	44.5	12.1	46.5	13.6	42.6	10.6
Ireland	45.2	8.8	41.7	10.2	48.7	7.4
Netherlands	59.8	21.4	65.3	24.5	54.2	18.2
New Zealand	57.3	9.2	62.9	10.7	51.8	7.8
Norway	80.7	16.4	81.2	17.2	80.2	15.5
Portugal	19.1	7.2	18.8	7.8	19.4	6.7
Spain	26.2	11.0	28.6	11.2	23.9	10.8
Sweden	72.3	12.2	70.7	12.6	73.9	11.9
Switzerland	82.2	8.4	88.8	11.6	75.6	5.2
Turkey	19.8	7.0	22.2	8.2	16.2	5.3
			25–34 years old			
Large countries						
Canada	82.3	18.4	80.6	18.0	84.0	18.9
France[2]	84.4	11.6	86.4	11.9	82.3	11.3
Germany	89.6	11.9	91.6	12.7	87.5	11.0
Italy	47.3	7.9	45.6	7.7	49.0	8.1
Japan[3]	90.6	22.9	89.3	34.2	91.8	11.5
United Kingdom	86.1	13.7	87.3	15.7	84.9	11.7
United States	86.4	23.4	85.2	23.4	87.5	23.5
Other countries						
Australia	54.3	14.7	61.8	13.9	46.9	15.6
Austria	79.3	6.3	82.6	7.0	75.8	5.6
Belgium	65.2	13.5	63.4	15.3	67.2	11.6
Denmark	67.9	13.6	68.1	13.1	67.6	14.2
Finland	81.9	11.8	79.3	12.7	84.7	10.8
Greece	62.5	15.3	62.2	14.6	62.7	16.0
Ireland	61.4	10.8	55.9	10.9	66.7	10.6
Netherlands	69.4	23.9	69.1	25.0	69.7	22.9
New Zealand	61.5	9.9	65.5	10.6	57.8	9.3
Norway	88.9	18.2	87.5	16.6	90.3	19.9
Portugal	30.2	9.6	25.9	8.1	34.1	11.0
Spain	45.3	17.1	44.0	14.8	46.6	19.3
Sweden	84.6	9.7	83.4	9.5	85.9	9.9
Switzerland	88.7	8.9	92.1	11.4	85.1	6.4
Turkey	23.6	6.6	27.2	7.5	19.5	5.6

Table 23-1 Percentage of the population who had completed secondary and higher education, by sex, country, and age: 1994—Continued

Country	Total		Male		Female	
	Secondary education[1]	Higher education	Secondary education[1]	Higher education	Secondary education[1]	Higher education
			35–44 years old			
Large countries						
Canada	79.2	18.2	77.8	19.2	80.6	17.2
France[2]	72.8	9.7	77.2	11.1	68.4	8.4
Germany	88.2	16.4	91.9	19.5	84.4	13.2
Italy	41.0	10.3	43.0	11.3	38.9	9.2
Japan[3]	77.0	14.5	77.0	23.6	77.0	5.4
United Kingdom	78.5	13.8	83.9	17.0	73.1	10.7
United States	88.7	27.0	88.4	29.1	89.1	25.0
Other countries						
Australia	53.5	16.4	65.1	17.9	42.1	14.9
Austria	72.0	7.2	78.9	8.9	64.7	5.4
Belgium	53.6	11.1	54.1	14.1	53.0	8.1
Denmark	61.7	16.3	65.8	16.2	57.3	16.4
Finland	72.1	12.8	70.6	14.0	73.7	11.7
Greece	49.9	14.6	51.6	16.6	48.3	12.6
Ireland	47.5	9.8	44.0	11.6	50.9	8.0
Netherlands	63.7	24.5	68.7	27.8	58.6	21.2
New Zealand	60.0	11.4	65.7	13.6	54.6	9.3
Norway	84.7	20.0	84.3	20.8	85.0	19.2
Portugal	22.3	9.5	22.6	10.2	22.1	8.9
Spain	29.3	12.6	32.4	12.6	26.2	12.7
Sweden	77.9	14.4	75.0	14.9	80.9	13.9
Switzerland	84.5	10.0	89.2	13.3	79.4	6.6
Turkey	19.7	8.0	23.1	9.3	14.7	5.9
			45–54 years old			
Large countries						
Canada	70.1	17.4	70.9	21.1	69.4	13.7
France[2]	60.3	9.2	65.2	11.3	55.4	7.0
Germany	83.7	13.2	90.5	18.0	76.6	8.3
Italy	25.6	7.1	29.5	8.7	21.8	5.6
Japan[3]	59.6	9.1	62.4	15.8	56.9	2.5
United Kingdom	69.1	10.6	77.2	14.7	61.1	6.5
United States	85.1	26.2	85.1	30.3	85.1	22.1

Table 23-1 Percentage of the population who had completed secondary and higher education, by sex, country, and age: 1994—Continued

Country	Total		Male		Female	
	Secondary education[1]	Higher education	Secondary education[1]	Higher education	Secondary education[1]	Higher education
Other countries						
Australia	47.3	12.2	58.0	13.7	36.2	10.6
Austria	63.7	5.1	72.6	7.4	54.7	2.8
Belgium	42.9	8.9	45.8	12.5	39.9	5.3
Denmark	59.3	13.6	64.2	15.3	54.2	11.9
Finland	55.9	11.5	55.5	14.1	56.4	8.9
Greece	34.6	10.2	39.0	12.9	30.3	7.5
Ireland	35.2	7.5	32.8	9.7	37.6	5.3
Netherlands	53.9	19.4	62.5	23.9	45.0	14.8
New Zealand	55.8	8.8	62.4	10.9	49.1	6.7
Norway	77.8	14.8	79.0	17.3	76.6	12.1
Portugal	14.7	6.3	15.9	8.0	13.7	4.7
Spain	16.0	8.0	20.5	10.2	11.7	6.0
Sweden	68.6	14.7	66.3	15.1	71.0	14.2
Switzerland	79.3	7.9	87.8	11.3	70.8	4.5
Turkey	16.3	8.0	18.4	9.7	12.4	4.8

[1] Includes individuals who had at least completed secondary education.

[2] France's definitions of ISCED levels were changed so that they would be more similar to EUROSTAT definitions and would be easier to compare to the definitions of other countries. As a result, data for 1994 are not directly comparable with data for other years.

[3] Data are for 1989.

NOTE: In the United States, completing secondary education is defined as graduating from high school or earning a GED; completing higher education is defined as earning a bachelor's degree or higher.

SOURCE: Organization for Economic Cooperation and Development, INES Project, International Indicators Project.

Table 24-1 Percentage of high school graduates taking selected mathematics and science courses in high school, by race/ethnicity: 1982, 1987, 1990, and 1994

	1982					1987				
Mathematics and science Courses (credits)	White	Black	His- panic	Asian/ Pacific Islander	American Indian/ Alaskan Native	White	Black	His- panic	Asian/ Pacific Islander	American Indian/ Alaskan Native
Mathematics[1]										
Any mathematics (1.00)	98.7	99.2	97.2	100.0	99.6	98.9	98.2	99.1	99.8	98.7
Algebra I (1.00)	57.8	42.4	42.4	55.5	33.2	66.1	54.6	53.6	63.6	60.9
Geometry (1.00)	51.0	28.8	25.6	64.9	33.2	63.0	42.2	39.6	81.1	43.2
Algebra II (0.50)	36.0	22.0	18.0	45.6	10.8	51.6	30.8	29.2	66.4	27.6
Trigonometry (0.50)	13.7	6.0	6.4	26.8	3.0	20.4	10.6	9.8	41.3	4.2
Analysis/pre-calculus (0.50)	6.8	2.2	2.8	14.5	1.8	13.2	5.1	7.3	39.4	5.4
Statistics/probability (0.50)	1.2	0.5	0.1	1.7	[2]0.0	1.4	0.3	0.2	1.5	[2]0.0
Calculus (1.00)	5.4	1.3	1.7	12.8	4.0	5.6	2.2	3.6	29.4	0.4
AP calculus (1.00)	1.8	0.3	0.4	5.5	0.1	2.7	1.4	2.6	23.5	0.4
Science										
Any science (1.00)	96.9	97.4	93.8	96.2	92.1	98.8	98.1	98.6	99.3	99.8
Biology (1.00)	78.3	73.0	68.2	83.7	66.7	88.7	84.7	85.4	91.5	90.2
AP/honors biology (1.00)	7.4	4.6	3.1	11.9	0.6	2.7	1.4	1.6	4.2	0.3
Chemistry (1.00)	34.1	21.9	15.5	52.8	25.9	46.6	28.4	29.1	69.8	26.4
AP/honors chemistry (1.00)	3.3	1.6	1.3	5.8	0.9	3.4	1.1	2.2	15.3	0.6
Physics (1.00)	16.3	7.3	5.7	34.8	8.1	20.6	9.7	9.9	46.5	8.3
AP/honors physics (1.00)	1.2	0.9	0.4	3.4	[2]0.0	1.6	0.4	0.8	5.6	1.4
Engineering (1.00)	0.2	0.1	0.1	[2]0.0	[2]0.0	0.1	0.4	0.1	0.4	[2]0.0
Astronomy (0.50)	1.3	0.4	0.7	[2]0.0	[2]0.0	0.9	0.3	0.7	0.7	0.5
Geology/earth science (0.50)	14.0	10.0	11.2	9.6	18.8	14.0	18.1	11.6	12.4	12.3
Biology and chemistry (2.00)	31.3	19.7	14.2	48.5	21.9	45.1	27.2	27.9	66.3	24.8
Biology, chemistry, and physics (3.00)	12.2	4.8	3.9	28.4	7.8	17.6	8.3	8.2	41.8	6.2

Table 24-1 Percentage of high school graduates taking selected mathematics and science courses in high school, by race/ethnicity: 1982, 1987, 1990, and 1994 —Continued

	1990					1994				
Mathematics and science courses (credits)	White	Black	Hispanic	Asian/ Pacific Islander	American Indian/ Alaskan Native	White	Black	Hispanic	Asian/ Pacific Islander	American Indian/ Alaskan Native
Mathematics[1]										
Any mathematics (1.00)	99.5	99.5	99.9	99.9	100.0	99.6	99.3	99.2	100.0	98.9
Algebra I (1.00)	64.2	65.1	64.8	63.2	61.7	67.5	65.0	70.7	61.7	58.7
Geometry (1.00)	65.6	56.2	53.6	70.6	55.7	72.7	58.1	69.4	75.8	60.0
Algebra II (0.50)	55.0	41.4	35.7	59.9	47.1	61.6	43.7	51.0	66.6	39.2
Trigonometry (0.50)	19.3	14.0	10.8	35.1	14.7	18.6	13.6	9.8	25.3	6.7
Analysis/pre-calculus (0.50)	14.8	6.2	7.2	25.3	7.6	18.2	9.8	13.9	33.9	8.7
Statistics/probability (0.50)	1.0	1.1	0.9	1.5	0.3	2.3	1.7	1.0	1.1	1.2
Calculus (1.00)	6.9	2.8	3.8	18.5	4.2	9.6	3.8	6.0	23.4	3.8
AP calculus (1.00)	4.2	1.2	3.0	15.6	3.0	7.3	2.0	4.6	21.0	2.2
Science										
Any science (1.00)	99.3	99.6	99.3	99.8	100.0	99.7	99.5	99.3	99.3	99.7
Biology (1.00)	91.5	91.3	90.3	90.4	90.5	94.4	91.3	94.0	90.9	91.2
AP/honors biology (1.00)	5.0	3.8	2.4	6.3	1.9	4.6	2.7	3.3	8.3	1.7
Chemistry (1.00)	51.5	40.3	38.4	63.6	35.5	58.5	43.8	46.5	69.3	41.3
AP/honors chemistry (1.00)	3.7	2.5	1.1	7.7	4.5	4.3	2.1	2.5	7.7	0.6
Physics (1.00)	23.1	14.6	13.3	38.4	14.7	26.1	14.7	16.0	42.3	10.3
AP/honors physics (1.00)	2.1	0.7	1.0	5.9	0.5	2.5	1.4	1.8	6.0	0.3
Engineering (1.00)	0.1	0.1	[2]0.0	[2]0.0	[2]0.0	0.2	0.4	0.1	1.0	[2]0.0
Astronomy (0.50)	1.4	0.4	1.1	0.7	1.7	2.0	0.6	0.4	0.8	2.2
Geology/earth science (0.50)	27.6	15.9	14.0	15.7	31.0	23.8	23.3	15.3	16.7	23.2
Biology and chemistry (2.00)	50.2	39.5	36.5	60.1	34.2	56.4	42.2	45.1	64.8	39.6
Biology, chemistry, and physics (3.00)	20.6	12.0	10.2	33.7	10.8	22.7	13.0	13.4	37.2	8.0

[1] These data only report the percentage of students who earned credit in each mathematics course while in high school and do not count those students who took these courses prior to entering high school. In 1992, for example, approximately 93 percent of students had taken algebra I at some point before graduating high school, either before or during high school, and about 70 percent had taken geometry.

[2] Percents less than 0.05 are rounded to 0.0.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *The 1994 High School Transcript Study Tabulations: Comparative Data on Credits Earned and Demographics for 1994, 1990, 1987, and 1982 High School Graduates*, 1996.

Note to Indicator 24: High school transcript studies

This analysis contains data from high school transcript studies conducted by the National Center for Education Statistics (NCES). Data on average course credits, or Carnegie units, for high school graduates come from the following studies: the 1987, 1990, and 1994 National Assessment of Educational Progress (NAEP) High School Transcript Studies (1987, 1990, and 1994 data); and the High School and Beyond (HS&B) Transcript Study (1982 data). A description of these studies, including descriptions of the sampled populations, follows.

The 1987, 1990, and 1994 NAEP High School Transcript Studies were conducted using nearly identical methodology and techniques. The sample of schools was nationally representative, and included schools having grade 12 or 17-year-old students. The sample was also representative of graduating seniors from each school. Since the focus of the transcript studies was high school graduates, schools with 17-year-olds but without 12th grade were not included in the subsample used in these analyses. Of the remaining schools, only those students who graduated were selected.

Between May and November of 1994, high school transcripts were collected from 25,573 students who graduated in 1994. To be consistent with the 1982 study, students with an Individualized Education Program (IEP) were omitted from all estimates in the tables. Also, students with incomplete transcripts were dropped, bringing the number of transcripts analyzed to 24,374. These students attended 340 schools that had been sampled by the NAEP. In spring 1991, transcripts were collected from 21,607 students who graduated from high school in 1990. These students attended 330 schools that had been sampled for the NAEP.

The sample of schools for the 1987 High School Transcript Study consisted of a nationally representative sample of 497 secondary schools selected for the 1986 NAEP for grade 11, 17-year-old students, of which 433 schools participated. The 1987 study was restricted to students who were in grade 11 during the 1985–86 school year. There are 27,732 graduates from 1987 represented in the tables. Data for 1987, 1990, and 1994 in this analysis are from the NCES publication *The 1994 High School Transcript Study Tabulations*.

In 1982, HS&B collected high school transcripts for members of the sophomore cohort who were selected for the second follow-up survey (about 12,000 transcripts). As in the 1987, 1990, and 1994 NAEP High School Transcript Studies, records were obtained from all types of high schools. However, because the 1982 HS&B used a different method to identify disabled students, students who had participated in a special education program were excluded from the tabulations to make the figures consistent.

Each of the transcript studies used the taxonomy of Classification of Secondary School Courses (CSSC), which contains approximately 2,200 course codes used to define course content and level. These studies also included additional course and student information, such as grade and credit received, grade level, graduation status, age, gender, and race/ethnicity.

The numbers in all the tables differ from previous editions of *The Condition of Education* for two reasons. First, a new exclusionary rule was applied to the transcripts beginning in 1996. Each year the transcripts must be examined for validity and completeness. Incomplete transcripts, those of students receiving special education diplomas, or those from schools which have unique definitions of credit hours were excluded. In previous years, transcripts showing that a student had taken more than 32 credit hours were excluded based on the supposition that their schools must be using shorter class periods than other schools, and thus one credit hour would not mean the same thing in these schools as in the average school. A case-by-case analysis of these schools showed that their class periods were no shorter than the average school; instead, these schools had particularly stringent graduation requirements. Therefore, the data for all years were recalculated to include these transcripts.

Second, in previous editions of *The Condition*, students who had taken algebra II or beyond in high school but had not taken algebra I or geometry were assumed to have taken these courses prior to entering high school and were included in the percentage of students who had taken these courses. Beginning with the 1996 edition, the numbers reflect only those students who took these courses *while in high school*. The numbers for these two subjects appear to have dropped from previous years, but in actuality, only the number of students who were included in the analysis has dropped.

SOURCE: U.S. Department of Education, National Center for Education Statistics. *The 1994 High School Transcript Study Tabulations*, 1996.

Note to Indicator 25: Advanced Placement examinations

The Advanced Placement (AP) examinations are offered to high school students annually to give them an opportunity to demonstrate college-level achievement. Although students who have not studied extensively beyond the normal secondary school level are not advised to take these examinations, the AP program is open to all students. Most high school students take the examinations voluntarily; however, several states have legislation that supports and encourages participation in the AP program.

In this analysis, the number of students who took AP examinations and the number of examinations taken by these students were compared to 1,000 11th- and 12th-grade students, as defined by the October Supplement to the Current Population Survey (CPS). Data from the CPS include both public and private schools. This methodology differs somewhat from the methodology shown in *The National Education Goals Report, 1995*, which calculated enrollment figures based on the Common Core of Data (CCD). The CCD does not include data from private schools. Consequently, to produce private school enrollment data, the public school figures in the *Goals Report* were multiplied by a private school enrollment adjustment factor. As a result, data shown in this analysis are not directly comparable to data found in the *Goals Report*.

Subject definitions

The following are the specific subjects that comprise the AP examination subject areas presented in this analysis:

Social studies	U.S. History, European History, U.S. Government and Politics, Comparative Government and Politics, and Psychology;
English	English Language and Composition, and English Literature and Composition;
Foreign language	French Language, French Literature, German Language, Latin/Virgil, Latin Literature, Spanish Language, and Spanish Literature;
Calculus	Calculus AB and Calculus BC;
Computer science	Computer Science A and Computer Science AB; and
Science	Biology, Chemistry, Physics A, Physics B (mechanical), and Physics C (electricity and magnetism).

Examinations

Most of the AP examinations contain multiple choice and free-response sections. The examinations are graded based on scores from both types of responses. The program's examinations are criterion-referenced not normed-referenced, with cut scores established at five different points along these scales to designate a grade of 5, 4, 3, 2, or 1 (grade of 5: extremely well qualified; grade of 4: well qualified; grade of 3: qualified; grade of 2: possibly qualified; and grade of 1: no recommendation). The grades are determined by the chief readers who rely on their subject matter expertise, statistical equating data, and data from comparability studies. Cut scores frequently vary from year to year for each examination, reflecting changes in the level of exam difficulty. Therefore, the College Board does not recommend the use of grade data for trend analysis. Grades of 3 and above are usually accepted for college credit and advanced placement at participating colleges and universities, although credit varies among institutions. Descriptions of the AP examinations for these various subject areas are provided below.

Biology: A 3-hour examination on a college full-year introduction to biology: 90 minutes of multiple-choice questions, 90 minutes of selected problems, short essays, and chemical reactions.

Chemistry: A 3-hour examination on a college full-year introduction to chemistry: 90 minutes of multiple-choice questions and 90 minutes of selected problems, short essays, and chemical reactions.

Computer Science: Two examinations: Computer Science A (75 minutes of multiple-choice questions, 105 minutes of free-response questions), a college first-semester introduction to Computer Science (programming, methodology, programming in Pascal including recursion, data structures not including pointers, applications), and Computer Science AB (75 minutes of multiple-choice questions, 105 minutes of free-response questions), a college full-year introduction to Computer Science (programming methodology, programming in Pascal, algorithms, data structures). The Computer Science AB examinations no longer include a separate grade report for the Computer Science A examination.

English: Two 180-minute examinations: English Language and Composition, and English Literature and Composition. Each examination covers a college full-year introductory English course. Both are 60 minutes of multiple-choice questions and 120 minutes of free-response questions. Candidates may take either or both examinations.

French: Two examinations, one on each of two college third-year courses: French Language (80–95 minutes of multiple-choice questions on listening and reading and 55–70 minutes of free-response writing and speaking); and French Literature (80–95 minutes of multiple-choice questions on literary passages, 35–50 minutes on one or more required works, and a 35–50 minute analysis of a presented text from the required reading list). Candidates may take either or both examinations.

German: A 3-hour examination on a college third-year German Language course: 110 minutes of multiple-choice questions on listening and reading and 70 minutes of free-response writing and speaking.

Government and Politics: Two 120-minute examinations (45 minutes of multiple-choice questions and 75 minutes of free-response questions) on each of two single-semester introductory college courses on government and politics: comparative and United States. Candidates may take either or both examinations.

History, European: A 3-hour examination on a college full-year introduction to European history in its global context from c. 1450 through 1970: 60–90 minutes of multiple-choice questions, a 15-minute reading period, a 30–50 minute exercise on the use of historical evidence, and one 40–60 minute essay chosen from several offered.

History, United States: A 3-hour examination on a college full-year introduction to United States history from colonial times to the present: 60–90 minutes of multiple-choice questions, a 15-minute reading period, a 30–50 minute exercise on the use of historical evidence, and a 40–60 minute selected essay.

Latin: Two 2-hour examinations on college middle-level Latin courses (Virgil and Catullus–Horace): each has 40–55 minutes of multiple-choice questions on Latin sight reading (common to both examinations) and 65–80 minutes of brief essays on required reading. Candidates may take either or both examinations.

Mathematics: Two 3-hour examinations, one on each of two college full-year mathematics courses: Calculus AB (introductory differential and integral calculus) and Calculus BC (extending one semester beyond AB and including advanced topics in integral calculus and sequences and series). Each examination has a 90-minute multiple-choice section and a 90 minute free-response section. A scientific, nonprogrammable, nongraphing calculator is required for each examination. Candidates may take only one examination.

Physics: Three examinations: Physics B, a 3-hour examination (half multiple-choice questions, half free-response questions) covering a college full-year, non-calculus course on general physics; Physics C (Mechanics); and Physics C (Electricity and Magnetism): two 90-minute examinations (half multiple-choice questions, half free-response questions) on each of two college semesters of introductory physics with calculus. Candidates may take either Physics B or C, not both.

Psychology: A 2-hour examination on a college one-semester introduction to psychology: a 75 minute free-response section consisting of two mandatory questions.

Spanish: Two examinations, one on each of two college third-year Spanish courses: Spanish Language (90 minutes of multiple-choice questions on listening comprehension, vocabulary, structure, and reading comprehension and 75–85 minutes of free-response writing and speaking); and Spanish literature (80 minutes of multiple-choice questions on listening comprehension, reading comprehension, and literary analysis, and 100 minutes of free-response essays on required authors and poetry analysis). Candidates may take either or both examinations.

SOURCE: The College Board, *A Guide to the Advanced Placement Program*, 1992.

Table 27-1 Number of bachelor's degrees conferred, by field of study: Academic years ending 1971–94

Field of study	1971	1972	1973	1974	1975	1976
Total	**839,730**	**887,273**	**922,362**	**945,776**	**922,933**	**925,746**
Humanities and social and behavioral sciences	337,022	350,651	357,170	358,412	338,924	327,289
Humanities	143,511	149,158	153,260	155,953	152,489	150,615
Social and behavioral sciences	193,511	201,493	203,910	202,459	186,435	176,674
Natural sciences	82,092	81,845	86,115	91,279	90,979	92,069
Life sciences	35,743	37,293	42,233	48,340	51,741	54,275
Physical sciences	21,412	20,745	20,696	21,178	20,778	21,465
Mathematics	24,937	23,807	23,186	21,761	18,460	16,329
Computer sciences and engineering	52,434	54,566	55,569	55,042	51,885	51,983
Computer and information sciences	2,388	3,402	4,304	4,756	5,033	5,652
Engineering and engineering technologies	50,046	51,164	51,265	50,286	46,852	46,331
Engineering	44,898	45,392	46,411	42,840	39,388	38,388
Engineering technologies	5,148	5,772	4,854	7,446	7,464	7,943
Technical/professional	368,182	400,211	423,508	440,479	441,145	454,405
Education	176,307	190,880	193,984	184,907	166,758	154,437
Business management	114,729	121,266	126,144	131,640	132,731	142,034
Health sciences	25,226	28,611	33,564	41,459	49,090	53,958
Other technical/professional	51,920	59,454	69,816	82,473	92,566	103,976
Not classified in a field of study	—	—	—	—	—	—

Field of study	1977	1978	1979	1980	1981	1982
Total	**917,549**	**921,204**	**921,390**	**929,417**	**935,140**	**952,998**
Humanities and social and behavioral sciences	311,116	300,998	288,705	281,866	275,582	276,479
Humanities	146,215	143,167	137,949	136,111	134,001	135,562
Social and behavioral sciences	164,901	157,831	150,756	145,755	141,581	140,917
Natural sciences	90,497	87,553	84,382	81,652	78,601	77,917
Life sciences	53,605	51,502	48,846	46,370	43,216	41,639
Physical sciences	22,497	22,986	23,207	23,410	23,952	24,052
Mathematics	14,395	13,065	12,329	11,872	11,433	12,226
Computer sciences and engineering	55,690	62,855	71,094	80,047	90,121	100,272
Computer and information sciences	6,407	7,201	8,719	11,154	15,121	20,267
Engineering and engineering technologies	49,283	55,654	62,375	68,893	75,000	80,005
Engineering	40,936	46,869	53,021	58,402	63,287	67,021
Engineering technologies	8,347	8,785	9,354	10,491	11,713	12,984
Technical/professional	460,246	469,798	477,209	485,852	490,836	498,290
Education	143,234	135,821	125,873	118,038	108,074	100,932
Business management	148,765	159,691	171,241	184,867	198,983	213,374
Health sciences	57,328	59,434	62,085	63,920	63,649	63,653
Other technical/professional	110,919	114,852	118,010	119,027	120,130	120,331
Not classified in a field of study	—	—	—	—	—	—

Table 27-1 Number of bachelor's degrees conferred, by field of study: Academic years ending 1971–94—Continued

Field of study	1983	1984	1985	1986	1987	1988
Total	**969,510**	**974,309**	**979,477**	**987,823**	**991,264**	**994,829**
Humanities and social and behavioral sciences	269,225	267,406	263,883	267,094	276,060	286,304
Humanities	133,537	134,128	132,413	132,626	136,724	140,6[illegible]
Social and behavioral sciences	135,688	133,278	131,470	134,468	139,336	145,647
Natural sciences	76,082	76,055	78,010	77,388	75,190	71,169
Life sciences	39,982	38,640	38,445	38,524	38,121	36,755
Physical sciences	23,381	23,651	23,704	21,717	20,070	17,806
Mathematics	12,719	13,764	15,861	17,147	16,999	16,608
Computer sciences and engineering	113,528	126,357	134,706	137,549	132,405	123,029
Computer and information sciences	24,510	32,172	38,878	41,889	39,589	34,523
Engineering and engineering technologies	89,018	94,185	95,828	95,660	92,816	88,506
Engineering	72,163	75,638	77,066	76,225	73,747	69,380
Engineering technologies	16,855	18,547	18,762	19,435	19,069	19,126
Technical/professional	510,675	504,479	*502,878	505,752	507,609	512,526
Education	97,895	92,299	88,072	87,114	86,936	91,112
Business management	226,627	229,478	232,636	237,319	240,546	243,021
Health sciences	64,685	64,288	64,422	64,396	63,103	60,644
Other technical/professional	121,468	118,414	*117,748	116,923	117,024	117,749
Not classified in a field of study	—	—	—	—	—	1,801

Field of study	1989	1990	1991	1992	1993	1994
Total	**1,018,755**	**1,051,344**	**1,094,538**	**1,136,553**	**1,165,178**	**1,169,275**
Humanities and social and behavioral sciences	306,852	332,807	356,021	383,281	396,818	397,411
Humanities	149,791	160,772	172,259	185,794	194,387	194,472
Social and behavioral sciences	157,061	172,035	183,762	197,487	202,431	202,939
Natural sciences	69,239	68,446	71,184	74,684	79,395	84,179
Life sciences	36,059	37,204	39,530	42,941	47,038	51,383
Physical sciences	17,186	16,066	16,344	16,960	17,545	18,400
Mathematics	15,994	15,176	15,310	14,783	14,812	14,396
Computer sciences and engineering	115,456	108,579	103,733	102,098	102,251	102,425
Computer and information sciences	30,454	27,257	25,083	24,557	24,200	24,200
Engineering and engineering technologies	85,002	81,322	78,650	77,541	78,051	78,225
Engineering	66,099	63,609	61,531	61,206	61,973	62,220
Engineering technologies	18,903	17,713	17,119	16,335	16,078	16,005
Technical/professional	524,803	538,799	550,342	569,770	581,467	581,958
Education	96,913	105,112	110,807	108,006	107,781	107,600
Business management	246,399	248,698	249,311	256,603	256,842	246,654
Health sciences	59,005	58,302	59,070	61,720	67,089	74,421
Other technical/professional	122,486	126,687	131,154	143,441	149,755	153,283
Not classified in a field of study	2,405	2,713	13,258	6,720	5,247	3,302

— Not available before the 1987-88 school year.

* Revised from previously published figures.

NOTE: See the supplemental note to this indicator for a description of the fields of study.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Digest of Education Statistics, 1996*, table 246 (based on IPEDS/HEGIS "Completions" surveys).

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Table 27-2 Percentage distribution of bachelor's degrees conferred, by field of study: Academic years ending 1971–94

Field of study	1971	1972	1973	1974	1975	1976	1977	1978
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Humanities and social and behavioral sciences	40.1	39.5	38.7	37.9	36.7	35.4	33.9	32.7
Humanities	17.1	16.8	16.6	16.5	16.5	16.3	15.9	15.5
Social and behavioral sciences	23.0	22.7	22.1	21.4	20.2	19.1	18.0	17.1
Natural sciences	9.8	9.2	9.3	9.7	9.9	9.9	9.9	9.5
Life sciences	4.3	4.2	4.6	5.1	5.6	5.9	5.8	5.6
Physical sciences	2.5	2.3	2.2	2.2	2.3	2.3	2.5	2.5
Mathematics	3.0	2.7	2.5	2.3	2.0	1.8	1.6	1.4
Computer sciences and engineering	6.2	6.1	6.0	5.8	5.6	5.6	6.1	6.8
Computer and information sciences	0.3	0.4	0.5	0.5	0.5	0.6	0.7	0.8
Engineering and engineering technologies	6.0	5.8	5.6	5.3	5.1	5.0	5.4	6.0
Engineering	5.3	5.1	5.0	4.5	4.3	4.1	4.5	5.1
Engineering technologies	0.6	0.7	0.5	0.8	0.8	0.9	0.9	1.0
Technical/professional	43.8	45.1	45.9	46.6	47.8	49.1	50.2	51.0
Education	21.0	21.5	21.0	19.6	18.1	16.7	15.6	14.7
Business management	13.7	13.7	13.7	13.9	14.4	15.3	16.2	17.3
Health sciences	3.0	3.2	3.6	4.4	5.3	5.8	6.2	6.5
Other technical/professional	6.2	6.7	7.6	8.7	10.0	11.2	12.1	12.5
Not classified in a field of study	—	—	—	—	—	—	—	—

Field of study	1979	1980	1981	1982	1983	1984	1985	1986
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Humanities and social and behavioral sciences	31.3	30.3	29.5	29.0	27.8	27.4	26.9	27.0
Humanities	15.0	14.6	14.3	14.2	13.8	13.8	13.5	13.4
Social and behavioral sciences	16.4	15.7	15.1	14.8	14.0	13.7	13.4	13.6
Natural sciences	9.2	8.8	8.4	8.2	7.8	7.8	8.0	7.8
Life sciences	5.3	5.0	4.6	4.4	4.1	4.0	3.9	3.9
Physical sciences	2.5	2.5	2.6	2.5	2.4	2.4	2.4	2.2
Mathematics	1.3	1.3	1.2	1.3	1.3	1.4	1.6	1.7
Computer sciences and engineering	7.7	8.6	9.6	10.5	11.7	13.0	13.8	13.9
Computer and information sciences	0.9	1.2	1.6	2.1	2.6	3.3	4.0	4.2
Engineering and engineering technologies	6.8	7.4	8.0	8.4	9.2	9.7	9.8	9.7
Engineering	5.8	6.3	6.8	7.0	7.4	7.8	7.9	7.7
Engineering technologies	1.0	1.1	1.3	1.4	1.7	1.9	1.9	2.0
Technical/professional	51.8	52.3	52.5	52.3	52.7	51.8	•51.3	51.2
Education	13.7	12.7	11.6	10.6	10.1	9.5	9.0	8.8
Business management	18.6	19.9	21.3	22.4	23.4	23.6	23.8	24.0
Health sciences	6.7	6.9	6.8	6.7	6.7	6.6	6.6	6.5
Other technical/professional	12.8	12.8	12.8	12.6	12.5	12.2	•12.0	11.8
Not classified in a field of study	—	—	—	—	—	—	—	—

Table 27-2 Percentage distribution of bachelor's degrees conferred, by field of study: Academic years ending 1971–94—Continued

Field of study	1987	1988	1989	1990	1991	1992	1993	1994
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Humanities and social and behavioral sciences	27.8	28.8	30.1	31.7	32.5	33.7	34.1	34.0
Humanities	13.8	14.1	14.7	15.3	15.7	16.3	16.7	16.6
Social and behavioral sciences	14.1	14.6	15.4	16.4	16.8	17.4	17.4	17.4
Natural sciences	7.6	7.2	6.8	6.5	6.5	6.6	6.8	7.2
Life sciences	3.8	3.7	3.5	3.5	3.6	3.8	4.0	4.4
Physical sciences	2.0	1.8	1.7	1.5	1.5	1.5	1.5	1.6
Mathematics	1.7	1.7	1.6	1.4	1.4	1.3	1.3	1.2
Computer sciences and engineering	13.4	12.4	11.3	10.3	9.5	9.0	8.8	8.8
Computer and information sciences	4.0	3.5	3.0	2.6	2.3	2.2	2.1	2.1
Engineering and engineering technologies	9.4	8.9	8.3	7.7	7.2	6.8	6.7	6.7
Engineering	7.4	7.0	6.5	6.1	5.6	5.4	5.3	5.3
Engineering technologies	1.9	1.9	1.9	1.7	1.6	1.4	1.4	1.4
Technical/professional	51.2	51.5	51.5	51.2	50.3	50.1	49.9	49.8
Education	8.8	9.2	9.5	10.0	10.1	9.5	9.3	9.2
Business management	24.3	24.4	24.2	23.7	22.8	22.6	22.0	21.1
Health sciences	6.4	6.1	5.8	5.5	5.4	5.4	5.8	6.4
Other technical/professional	11.8	11.8	12.0	12.1	12.0	12.6	12.9	13.1
Not classified in a field of study	—	0.2	0.2	0.3	1.2	0.6	0.5	0.3

— Not available before the 1987-88 school year.

* Revised from previously published figures.

NOTE: See the supplemental note to this indicator for a description of the fields of study.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Digest of Education Statistics, 1996*, table 246 (based on IPEDS/HEGIS "Completions" surveys).

Note to Indicator 27: Classification of fields of study

The data on degrees conferred by specific fields of study were obtained from the Integrated Postsecondary Education Data System (IPEDS) "Degrees and Other Formal Awards Conferred" surveys and the "Completions" surveys. The list below shows how related degree fields were reclassified into a consolidated degree field for this analysis.

Consolidated degree field	Degree fields
Humanities	Area and ethnic studies English language and literature/letters Foreign languages Liberal/general studies Multi/interdisciplinary studies Philosophy and religion Theology Visual and performing arts
Social/behavioral sciences	Psychology Social sciences and history
Natural sciences	Biological sciences/life sciences Mathematics Physical sciences
Engineering	Engineering Engineering technologies Construction trades Mechanics and repairs
Other technical/professional	Agriculture Architecture Communications Communication technology Home economics Law Library/archival sciences Military sciences Parks and recreation Precision production trades Protective services Public administration and services Transportation and material moving

In the 1991–92 academic year, a new classification of instructional programs was initiated. The figures for the earlier years were reclassified when necessary to make them conform to the new taxonomy. To facilitate trend comparisons, certain aggregations have been made of the degree fields as reported in the IPEDS "Completions" surveys: "Agriculture and natural resources" includes Agribusiness and agriculture production, Agricultural sciences, and Conservation and renewable natural resources; "Business management and administrative services" includes Business and management, Business (administrative support), Marketing and distribution, and Consumer, personal, and miscellaneous services; and "Engineering-related technologies" includes Engineering-related technologies, Mechanics and repairers, and Construction trades.

Table 28-1 Female field concentration ratio[1] of master's degrees conferred, by field of study: Academic years ending 1971–94

Field of study	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982
Humanities	1.58	1.52	1.45	1.34	1.32	1.24	1.17	1.16	1.12	1.08	1.03	1.08
Social and behavioral sciences	0.69	0.69	0.68	0.67	0.69	0.73	0.76	0.77	0.84	0.88	0.91	0.92
Natural sciences	0.48	0.48	0.44	0.43	0.41	0.41	0.44	0.42	0.44	0.43	0.43	0.45
Life sciences	0.76	0.72	0.62	0.58	0.53	0.54	0.57	0.59	0.62	0.60	0.63	0.69
Physical sciences	0.23	0.24	0.22	0.22	0.21	0.20	0.22	0.22	0.23	0.23	0.26	0.27
Mathematics	0.56	0.58	0.56	0.53	0.54	0.53	0.55	0.50	0.49	0.51	0.45	0.43
Computer sciences and engineering	0.03	0.04	0.04	0.05	0.05	0.06	0.07	0.09	0.09	0.11	0.12	0.14
Computer and information sciences	0.17	0.19	0.17	0.20	0.21	0.20	0.22	0.25	0.24	0.27	0.30	0.35
Engineering	0.02	0.02	0.02	0.03	0.03	0.04	0.05	0.06	0.07	0.08	0.09	0.10
Technical/professional	1.27	1.25	1.26	1.26	1.24	1.23	1.23	1.24	1.22	1.23	1.24	1.25
Education	1.92	1.98	1.98	1.99	2.04	2.10	2.18	2.26	2.28	2.42	2.48	2.54
Business management	0.06	0.06	0.07	0.09	0.11	0.15	0.19	0.22	0.25	0.30	0.33	0.38
Health professions	1.85	1.90	1.91	2.00	1.99	2.29	2.37	2.53	2.54	2.66	2.80	3.03
Other technical/ professional[2]	1.56	1.46	1.34	1.24	1.15	1.08	1.04	1.07	1.08	1.10	1.14	1.15

Field of study	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
Humanities	1.06	1.08	1.12	1.12	1.06	1.06	1.06	1.06	1.09	1.08	1.08	1.09
Social and behavioral sciences	0.99	1.04	1.06	1.08	1.05	1.06	1.07	1.06	1.10	1.05	1.08	1.10
Natural sciences	0.48	0.52	0.52	0.53	0.55	0.54	0.56	0.55	0.55	0.54	0.55	0.55
Life sciences	0.77	0.82	0.91	0.91	0.91	0.92	0.92	0.93	0.92	0.91	0.87	0.92
Physical sciences	0.27	0.31	0.30	0.32	0.32	0.31	0.34	0.32	0.33	0.32	0.35	0.35
Mathematics	0.47	0.50	0.49	0.50	0.57	0.58	0.57	0.55	0.56	0.54	0.55	0.51
Computer sciences and engineering	0.15	0.18	0.18	0.20	0.20	0.19	0.19	0.20	0.19	0.19	0.19	0.19
Computer and information sciences	0.39	0.42	0.40	0.42	0.40	0.35	0.36	0.35	0.36	0.32	0.31	0.29
Engineering	0.10	0.12	0.12	0.13	0.14	0.13	0.14	0.14	0.14	0.15	0.15	0.15
Technical/professional	1.25	1.25	1.26	1.26	1.28	1.29	1.28	1.28	1.27	1.27	1.27	1.27
Education	2.64	2.63	2.64	2.66	2.71	2.84	2.84	2.84	2.81	2.84	2.81	2.75
Business management	0.41	0.44	0.45	0.45	0.47	0.48	0.47	0.47	0.46	0.46	0.47	0.48
Health professions	3.01	3.16	3.23	3.16	3.58	3.41	3.29	3.14	3.24	3.30	3.31	3.19
Other technical/ professional[2]	1.22	1.25	1.29	1.27	1.28	1.27	1.30	1.32	1.30	1.33	1.35	1.33

[1] The female field concentration ratio is calculated as the percentage of females earning degrees who majored in a specific field divided by the percentage of males earning degrees who majored in the same field. Includes degrees conferred to U.S. and non-U.S. citizens.

[2] Principally composed of public administration at the master's degree level and agriculture and natural resources at the doctor's degree level. See the glossary for a full definition of "other technical/ professional" fields.

NOTE: See the supplemental note to *Indicator 27* for a description of fields of study.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Digest of Education Statistics, 1996*, table 263 (based on IPEDS/HEGIS "Completions" surveys).

Table 29-1 Employment rates for recent high school graduates not enrolled in college and for recent school dropouts, by sex: October 1960–95

October	Recent high school graduates not enrolled in college			Recent school dropouts		
	Total	Male	Female	Total	Male	Female
1960	65.0	75.3	58.8	50.9	61.8	40.8
1961	65.4	70.1	62.5	49.4	60.3	38.3
1962	68.3	77.8	61.5	40.4	61.9	23.3
1963	64.7	72.6	59.5	45.1	64.4	27.0
1964	63.4	79.2	53.5	41.6	63.0	24.0
1965	71.9	84.3	63.2	47.9	66.8	26.8
1966	64.9	79.7	55.8	51.4	69.4	33.6
1967	65.9	78.3	57.7	50.3	65.0	34.4
1968	67.3	79.1	60.2	50.0	65.5	34.0
1969	70.1	83.1	61.1	51.0	69.8	30.9
1970	63.2	76.1	52.6	44.7	56.5	31.9
1971	65.1	77.5	55.6	46.8	59.3	31.7
1972	70.1	79.9	62.2	46.8	64.7	28.3
1973	70.7	81.7	61.9	52.7	62.5	40.0
1974	69.1	76.0	63.2	49.3	63.8	32.2
1975	65.1	74.1	57.5	41.9	54.8	29.5
1976	68.8	75.9	61.7	44.8	58.0	28.2
1977	72.0	77.7	67.2	52.7	64.0	39.3
1978	74.9	81.6	67.5	51.2	63.7	34.8
1979	72.4	79.2	66.7	49.7	65.3	34.3
1980	68.9	72.6	65.0	44.6	51.9	34.8
1981	65.9	70.0	62.1	42.1	54.1	29.3
1982	60.4	64.9	56.0	38.0	44.4	30.5
1983	63.0	66.1	60.1	44.4	51.6	35.8
1984	64.0	69.1	59.7	44.0	53.1	33.7
1985	62.0	65.0	59.3	44.2	51.9	35.8
1986	65.2	69.4	61.6	48.0	57.9	36.8
1987	68.9	76.9	61.9	41.8	46.0	36.6
1988	71.9	74.2	69.5	43.6	53.7	30.6
1989	71.7	77.4	65.6	46.7	52.2	40.1
1990	67.8	73.1	61.9	46.3	51.3	40.6
1991	59.6	62.2	56.1	36.8	48.8	25.0
1992	62.7	68.8	55.8	36.2	44.8	28.7
1993	64.2	67.6	60.6	46.9	61.6	30.1
1994	64.2	70.4	57.7	42.9	58.2	27.1
1995	63.1	64.1	62.3	47.7	52.8	41.1

NOTE: Recent high school graduates are individuals aged 16–24 who graduated during the survey year. Recent school dropouts are individuals aged 16–24 who did not graduate and who were in school 12 months earlier but who were not enrolled during the survey month.

SOURCE: U.S. Department of Labor, Bureau of Labor Statistics, *Labor Force Statistics Derived from the Current Population Survey: 1940–87.* U.S. Department of Commerce, Bureau of the Census, October Current Population Surveys.

Note to Indicator 30: Labor market outcomes for non-college-bound high school graduates

The data for this analysis were drawn from the 1980 High School and Beyond (HS&B) Sophomore Cohort and the National Education Longitudinal Study of 1988 (NELS:88) sophomore cohort. The cases represented in the tables and figures are for early or on-time high school graduates who had earned at least 16 credits as shown on their high school transcripts and who had not entered postsecondary education within 2 years after graduation. Information about what courses students took, the number of credits they earned, and their overall grade point average is derived from high school transcript files for each cohort.

The labor market outcomes are for the first complete year after high school—1983 for the HS&B sophomores, and 1993 for the NELS graduates. To ensure comparability, the NELS sample was selected using a filter variable designed for this purpose (G10CHRT). The 1980 sophomore data and 1988 NELS samples were chosen for the analysis because they provided the most current and complete information available about non-college-bound high school graduates among NCES data sets.

NOTE: The estimates for the percentage of each cohort who worked were based on the ratio of the total who reported positive hours worked per week to the total sample size.

Table 31-1 Percentage of 1992–93 college graduates who were working in administrative or clerical support occupations, and the percentage who were unemployed, by sex and field of study: April 1994

Field of study	Percentage in administrative or clerical support occupations		Percentage unemployed	
	Male	Female	Male	Female
Total	**13.0**	**21.8**	**4.8**	**4.3**
Business and management	17.1	31.4	3.8	3.4
Education	12.9	13.5	2.9	3.5
Engineering	4.7	7.3	6.0	7.6
Health professions	7.0	7.6	4.3	4.6
Public affairs/social services	6.8	21.4	4.2	4.8
Biological sciences	12.1	21.5	6.5	8.3
Mathematics and science	12.5	22.1	5.6	3.8
Social sciences	19.5	33.5	4.6	4.9
History	15.3	22.3	6.5	3.6
Humanities	13.4	26.8	7.3	3.3
Psychology	22.6	22.0	5.2	5.0
Other	9.0	21.4	3.5	5.2

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1993 Baccalaureate and Beyond Longitudinal Study, First Follow-up (B&B:93/94).

Table 33-1 Median annual earnings (in 1996 constant dollars) of wage and salary workers aged 25–34 whose highest education level was a bachelor's degree or higher, by sex and race/ethnicity: 1970–95

Year	Male				Female			
	Total	White	Black	Hispanic	Total	White	Black	Hispanic
				All wage and salary workers				
1970	$42,174	$41,965	(*)	(*)	$28,368	$24,640	$30,643	(*)
1971	42,155	41,746	$37,496	(*)	28,720	26,232	29,291	(*)
1972	42,773	42,442	39,432	(*)	28,484	25,797	29,427	(*)
1973	42,552	41,923	36,905	(*)	28,170	25,626	27,896	(*)
1974	38,716	39,395	32,152	(*)	25,023	24,867	26,606	(*)
1975	36,527	36,901	32,630	(*)	24,828	24,391	27,526	(*)
1976	37,612	37,928	35,138	(*)	23,844	23,468	27,499	(*)
1977	37,516	37,888	33,691	(*)	23,469	23,045	27,318	(*)
1978	37,741	37,858	35,946	$36,078	23,198	22,986	24,065	(*)
1979	36,476	36,687	31,964	31,595	23,480	23,467	23,934	(*)
1980	34,845	35,426	29,128	30,411	22,817	22,675	24,611	(*)
1981	35,253	35,701	29,853	28,227	22,575	22,414	23,417	$23,529
1982	33,943	34,303	29,377	32,626	23,281	23,106	24,271	22,163
1983	34,450	34,947	27,360	30,767	24,089	23,987	24,840	23,668
1984	35,411	36,519	28,545	30,345	24,330	24,235	25,168	23,944
1985	37,609	38,019	34,722	37,363	25,561	25,559	24,805	25,483
1986	37,911	38,580	29,587	38,183	26,821	26,697	26,504	25,734
1987	38,034	39,661	26,272	34,917	27,484	27,277	28,031	28,248
1988	37,102	39,198	28,072	29,027	27,454	27,670	27,285	25,537
1989	37,043	38,607	27,409	26,809	28,145	28,131	27,037	29,357
1990	35,325	36,200	30,934	32,233	27,792	28,043	27,756	24,976
1991	35,552	36,262	27,112	29,630	26,893	27,461	24,674	22,849
1992	35,599	36,792	29,893	29,679	27,958	28,079	26,643	26,809
1993	34,581	35,492	28,689	28,955	27,535	27,978	24,503	24,508
1994	33,956	35,563	25,497	29,440	27,125	27,527	24,581	24,622
1995	33,367	35,839	29,536	29,235	26,611	26,800	23,053	26,176

Table 33-1 Median annual earnings (in 1996 constant dollars) of wage and salary workers aged 25–34 whose highest education level was a bachelor's degree or higher, by sex and race/ethnicity: 1970–95—Continued

Year	Male				Female			
	Total	White	Black	Hispanic	Total	White	Black	Hispanic
Year-round, full-time wage and salary workers								
1970	$45,156	$45,375	(*)	(*)	$32,276	$32,042	(*)	(*)
1971	44,679	45,106	(*)	(*)	31,488	31,640	$31,019	(*)
1972	45,410	45,708	$41,171	(*)	32,126	32,187	30,970	(*)
1973	45,590	46,178	39,732	(*)	31,968	31,879	32,879	(*)
1974	42,975	43,466	37,056	(*)	29,930	30,174	27,811	(*)
1975	41,005	41,311	34,530	(*)	29,885	30,072	28,354	(*)
1976	41,495	41,576	38,205	(*)	30,082	30,010	30,479	(*)
1977	41,117	36,682	30,661	(*)	29,170	26,702	25,177	(*)
1978	41,137	41,252	38,961	(*)	28,472	28,507	26,603	(*)
1979	39,995	39,984	38,478	(*)	28,198	28,377	26,131	(*)
1980	38,466	38,799	31,593	$34,032	28,350	28,492	27,503	(*)
1981	38,628	38,859	34,306	36,072	28,362	28,543	26,343	(*)
1982	37,148	37,672	33,016	35,653	28,041	28,298	26,076	(*)
1983	38,828	39,281	33,397	33,729	28,034	28,346	26,018	$26,451
1984	39,257	39,607	31,954	35,443	29,400	29,547	28,208	29,641
1985	40,077	40,860	37,518	40,262	30,663	31,119	26,654	30,056
1986	41,786	42,636	33,690	41,810	31,421	31,705	28,782	29,059
1987	42,050	42,796	32,420	38,651	30,803	31,311	28,852	30,690
1988	41,164	41,811	29,377	34,003	31,867	32,554	29,007	30,702
1989	40,467	41,849	29,594	33,235	32,686	32,806	30,222	32,450
1990	38,212	38,716	32,590	37,424	32,203	32,458	30,900	29,203
1991	40,520	41,221	31,579	36,518	31,307	31,658	27,088	27,997
1992	39,907	40,733	33,796	32,122	31,552	31,677	30,209	29,744
1993	39,188	39,942	29,833	32,918	32,541	32,962	28,071	28,026
1994	38,139	38,775	27,006	33,681	31,310	31,927	27,154	27,519
1995	38,033	39,313	31,428	34,087	30,750	31,120	26,669	29,235

* Too few sample observations for a reliable estimate.

NOTE: In 1992, the Current Population Survey (CPS) changed the questions used to obtain the educational attainment of respondents. See the supplemental note to *Indicator 22* for further discussion.

SOURCE: U.S. Department of Commerce, Bureau of the Census, March Current Population Surveys.

Table 36-1 Percentage of elementary[1] teachers who reported assigning types of homework and teachers' use of homework, by control of school and years of teaching experience: School year 1994–95

	Public			Private		
		Years of teaching experience			Years of teaching experience	
Type of homework and teachers' use of homework	Total	Less than 4 years	4 years or more	Total	Less than 4 years	4 years or more
Percentage of teachers who reported assigning types of homework at least once a week[2]						
Write a journal entry	43.4	50.9	42.4	37.1	34.3	37.6
Prepare a written report	16.5	17.9	16.3	14.8	10.2	15.7
Work on problems for which there is no obvious method of solution	15.5	23.3	14.5	10.0	10.2	9.9
Read the textbook or other assigned reading	73.6	69.1	74.2	78.0	81.9	77.2
Apply concepts or principles to different or unfamiliar situations	41.0	52.9	39.4	45.3	32.3	47.8
Read supplementary material	65.7	65.0	65.7	62.3	51.5	64.4
Complete routine exercises or problems from worksheets, workbooks, or text	79.2	79.9	79.1	88.4	89.0	88.3
Work on a project, gather data, or conduct an experiment	29.3	25.8	29.8	27.7	21.6	28.9
Prepare an oral report	12.9	11.2	13.2	8.8	9.6	8.6
Complete a short writing assignment	61.9	62.8	61.7	58.2	57.4	58.4
Percentage of teachers who often[3] used written homework in the following ways:						
Record only whether assignments were completed	47.7	48.9	47.5	54.4	53.4	54.6
Collect, correct, and keep assignments	41.2	46.7	40.5	52.6	39.5	55.1
Keep items in a student portfolio	35.1	44.3	33.8	37.0	26.6	39.1
Collect, correct, and return assignments to students	72.3	78.3	71.5	81.8	81.4	81.8
Have students exchange assignments and correct them in class	27.0	28.0	26.9	35.4	26.3	37.2
Have students correct their own assignments in class	38.2	35.0	38.6	46.9	33.7	49.4
Use assignments as a basis for class discussion	55.0	50.8	55.6	55.5	45.8	57.4
Use assignments as a basis for grading students	41.4	41.9	41.3	51.3	40.2	53.5
Use assignments as a basis for lesson planning	50.7	47.8	51.1	47.3	34.2	49.8

[1] Includes elementary teachers whose main assignment was teaching "general elementary" and who taught in both the 1993-94 and 1994-95 school years; therefore, new teachers are not included in this analysis. See the supplemental note to this indicator for further discussion.

[2] Includes those teachers who responded "almost every day" and "once or twice a week."

[3] Includes those teachers who responded "always" and "often."

SOURCE: U.S. Department of Education, National Center for Education Statistics, Teacher Follow-up Survey, 1994-95.

Note to Indicator 36: The Teacher Follow-up Survey

The Teacher Follow-up Survey (TFS) provides information on movement within and outside of the teaching profession in public and private schools. TFS is a subsample of teachers in the Schools and Staffing Survey (SASS) and is conducted one year after each SASS cycle. The third TFS was conducted in the 1994–95 school year; two previous cycles of TFS were conducted in school years 1988–89 and 1991–92. The survey identifies and collects data from the following groups of teachers who participated in the SASS interview the previous year: 1) those who remained in the teaching profession, including those who remained in the same school and those who moved; and 2) those who left the teaching profession.

The 1994–95 TFS included questions on teaching methods, such as the use of homework and student portfolios. Respondents to the questions on teaching methods were those teachers who taught in both the 1993–94 and 1994–95 school years; therefore, the teachers' responses about their teaching methods represented a measurement of their actions in the 1994–95 school year, but do not consist of a complete random sample of the 1994–95 teacher work force. New teachers in the 1994–95 school year were left out of the survey.

Elementary teachers

The TFS questions asked teachers to identify their main teaching assignment. For *Indicators 36, 37*, and *38*, the elementary teacher category consists of those teachers who responded that their main teaching assignment was "general elementary." The elementary teacher category excluded those elementary teachers who taught special subject areas, such as art, foreign language, science, or special education. However, special area elementary teachers were included in the "total" column of *Indicators 37* and *38*.

Grouping of responses

In most cases, questions were asked in terms of "how many times in the past semester did you....?" In these cases, the response choices included: "almost every day," "once or twice a week," "once or twice a month," "once or twice a semester," or "never." For the indicators in the *Condition*, the responses "almost every day" and "once or twice a week" were combined to create the "at least once a week" response category. For the indicator on the assignment of homework by elementary teachers, two questions that asked "how often did you....?" were used to create the response category. The responses to the questions included "always," "often," "sometimes," "rarely," and "never." "Always" and "often" were combined to create the "often" response category used in this analysis.

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Table 40-1 Percentage of teachers who participated in a formal teacher induction or a master or mentor program, by years of teaching experience and control and level of school: 1994

Control and level of school	Participated in a formal teacher induction program during first year of teaching			Master or mentor program
	1 year	2–3 years	4 years or more	
Public	**59.9**	**54.8**	**23.3**	**11.3**
Elementary	59.4	54.5	23.8	11.4
Secondary	60.7	55.3	22.5	11.3
Private	**30.2**	**33.8**	**24.2**	**10.1**
Elementary	26.8	31.7	23.5	8.9
Secondary	42.7	39.5	26.0	13.7

NOTE: Excludes a small number of teachers whose schools did not respond to the questionnaire.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey, 1993–94 (Teacher Questionnaire).

Table 43-1 Mean classroom hours per week, mean student contact hours per week, and average class size for full-time postsecondary faculty, by academic rank, type and control of institution, and academic discipline of class taught: Fall 1987 and fall 1992

Characteristics	Mean classroom hours per week	Mean student contact hours per week	Average class size
		Fall 1992	
Total*	**11.0**	**337.4**	**30.6**
Academic rank			
Full professor	9.6	323.7	33.6
Associate professor	10.1	324.9	31.5
Assistant professor	10.6	312.5	30.1
Instructor	15.9	434.0	26.3
Lecturer	9.0	301.8	34.8
Type of institution			
Research	6.9	270.3	38.9
Doctoral	9.2	356.7	39.7
Comprehensive	10.8	318.5	29.1
Liberal arts	11.0	242.2	21.4
2-year	16.2	451.9	27.3
Control of institution			
Public	11.4	358.5	31.8
Private	10.0	286.2	27.8
Academic discipline of class taught			
Agriculture	11.0	311.1	28.3
Business	11.0	317.9	29.2
Education	10.2	276.9	25.8
Engineering	9.6	243.9	25.3
Fine arts	12.4	269.3	21.5
Humanities	10.9	296.0	26.8
Natural sciences	10.2	376.4	36.4
Social sciences	9.5	357.9	36.0

Table 43-1 Mean classroom hours per week, mean student contact hours per week, and average class size for full-time postsecondary faculty, by academic rank, type and control of institution, and academic discipline of class taught: Fall 1987 and fall 1992—Continued

Characteristics	Mean classroom hours per week	Mean student contact hours per week	Average class size
		Fall 1987	
Total*	**9.8**	**300.4**	**30.0**
Academic rank			
Full professor	8.6	277.9	32.8
Associate professor	9.1	314.5	33.6
Assistant professor	9.3	262.2	28.0
Instructor	13.4	371.2	26.9
Lecturer	9.2	424.2	41.6
Type of institution			
Research	6.5	252.5	38.5
Doctoral	8.4	279.0	33.8
Comprehensive	10.5	305.5	29.0
Liberal arts	10.6	235.7	21.4
2-year	15.0	416.6	26.5
Control of institution			
Public	10.2	324.1	31.5
Private	8.8	247.4	28.3
Academic discipline of class taught			
Agriculture	8.8	247.0	29.6
Business	10.6	327.5	29.9
Education	9.8	259.7	24.5
Engineering	9.5	256.4	27.2
Fine arts	12.1	279.5	22.1
Humanities	10.1	276.9	26.6
Natural sciences	9.4	352.9	36.0
Social sciences	8.7	328.5	37.0

* Included in the total but not shown separately are other types of academic ranks, institutions, and academic disciplines.

NOTE: See the supplemental note to this indicator for definitions of classroom and student contact hours.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Study of Postsecondary Faculty, 1988 and 1993.

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Note to Indicator 43: Teaching workload and research production of full-time postsecondary faculty

The 1988 National Study of Postsecondary Faculty (NSOPF) was a survey of faculty who had at least some instructional duties (such as teaching one or more courses) in for-credit, higher education courses during the fall 1987 term.

Unlike NSOPF-88, which was limited to faculty whose regular assignments included instruction, the faculty universe for NSOPF-93 was expanded to include anyone who was designated as faculty, whether or not their responsibilities included instruction, as well as other (nonfaculty) personnel with instructional responsibilities.

The analyses for this indicator include all those who had any instructional duties in the fall of 1987 and 1992. Therefore, it includes those faculty whose principal activity that semester was research, technical, clinical, service, or administration, as long as the faculty member taught at least one class for credit. In fact, in fall 1992, 15 percent of all faculty who taught at least one class for credit had a principal activity other than teaching.

The analysis for the indicators using NSOPF categorizes institutions of higher education into five types, as shown below. Remaining institutions, such as religious or specialized institutions, were included in the totals but are not shown separately.

Types of institutions

Research university: Institution among the 100 leading universities that receives federal research funds. Each of these universities awards substantial numbers of doctorates across many fields.

Doctoral university: Institution that offers a full range of baccalaureate programs and Ph.D. degrees in at least three disciplines, but tends to be less focused on research and receives fewer federal research dollars than the research universities.

Comprehensive institution: Institution that offers liberal arts and professional programs. The master's degree is the highest degree offered.

Liberal arts institution: Institution that is smaller and generally more selective than comprehensive colleges and universities. A liberal arts institution primarily offers bachelor's degrees, although some offer master's degrees.

2-year institution: Institution that offers certificate or degree programs through the Associate of Arts level. Two-year institutions, with few exceptions, offer no bachelor's degrees, although some offer master's degrees.

Time allocation

NSOPF survey respondents were asked to estimate the percentage of total working hours they spent on each of the activities below:

Teaching: Includes teaching; grading papers; preparing courses; developing new curricula; advising or supervising students; or working with student organizations or intramural sports.

Research/scholarship: Includes conducting research; reviewing or preparing articles or books; attending or preparing for professional meetings or conferences; reviewing proposals; seeking outside funding; giving performances or exhibitions in the fine or applied arts; or giving speeches.

Professional growth: Includes taking courses or pursuing an advanced degree or other professional development activities to remain current in their field of practice.

Administration: Performing administrative activities.

Outside consulting or freelance work: Conducting outside consulting or other employment.

Service/other: Includes providing legal or medical service or psychological counseling to clients or patients; providing paid or unpaid community or public service, or service to professional societies/associations; or participating in other activities or work not listed above.

Classroom and student contact hours

Classroom hours: The number of hours per week faculty members spent teaching.

Student contact hours: The sum of the number of hours per week faculty members spent teaching over all classes, multiplied by the number of students in each class.

Class size: The total number of student contact hours divided by the mean number of classroom hours faculty spent per week.

Research Production

List below are the specific types of research produced by faculty and the corresponding categories used to discuss these activities in *Indicator 59*.

Articles/Creative works	Articles published in refereed professional or trade journals
	Articles published in nonrefereed professional or trade journals
	Creative works published in juried media
	Creative works published in nonjuried media or in-house newsletters
	Chapters in edited volumes
	Text books
	Other books
	Monographs
Presentations/exhibitions	Presentations at conferences, workshops, etc.
	Exhibitions or performances in the fine or applied arts
Other published reviews of books, articles, or creative works	Research or technical reports disseminated internally or to clients
	Patents or copyrights
	Computer software products

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Profiles of Faculty in Higher Education Institutions*, 1988.

Table 44-1 Elementary and secondary school enrollment (in thousands), by control and level of school, with projections: Fall 1970–2007

		Public schools			Private schools[1]		
Fall of year	Total	Grades K-12[2]	Grades K-8[2]	Grades 9-12	Grades K-12[2]	Grades K-8[2]	Grades 9-12
1970	51,257	45,894	32,558	13,336	5,363	4,052	1,311
1971	51,271	46,071	32,318	13,753	5,200	3,900	1,300
1972	50,726	45,726	31,879	13,848	5,000	3,700	1,300
1973	50,445	45,445	31,401	14,044	5,000	3,700	1,300
1974	50,073	45,073	30,971	14,103	5,000	3,700	1,300
1975	49,819	44,819	30,515	14,304	5,000	3,700	1,300
1976	49,478	44,311	29,997	14,314	5,167	3,825	1,342
1977	48,717	43,577	29,375	14,203	5,140	3,797	1,343
1978	47,637	42,551	28,463	14,088	5,086	3,732	1,353
1979	46,651	41,651	28,034	13,616	5,000	3,700	1,300
1980	46,208	40,877	27,647	13,231	5,331	3,992	1,339
1981	45,544	40,044	27,280	12,764	5,500	4,100	1,400
1982	45,166	39,566	27,161	12,405	5,600	4,200	1,400
1983	44,967	39,252	26,981	12,271	5,715	4,315	1,400
1984	44,908	39,208	26,905	12,304	5,700	4,300	1,400
1985	44,979	39,422	27,034	12,388	5,557	4,195	1,362
1986	45,205	39,753	27,420	12,333	5,452	4,116	1,336
1987	45,488	40,008	27,933	12,076	5,479	4,232	1,247
1988	45,430	40,189	28,501	11,687	5,241	4,036	1,206
1989	45,898	40,543	29,152	11,390	5,355	4,162	1,193
1990	46,448	41,217	29,878	11,338	5,232	4,095	1,137
1991	47,246	42,047	30,506	11,541	5,199	4,074	1,125
1992[3]	48,198	42,823	31,088	11,735	5,375	4,212	1,163
1993[3]	48,936	43,465	31,504	11,961	5,471	4,280	1,191
1994[3,4]	49,705	44,109	31,894	12,214	5,596	4,360	1,236
1995[3,4]	50,362	44,662	32,085	12,576	5,700	4,431	1,269
1996[4]	51,484	45,700	32,826	12,874	5,784	4,490	1,293
			Projected				
1997	52,217	46,353	33,216	13,138	5,863	4,544	1,320
1998	52,725	46,806	33,512	13,294	5,920	4,584	1,335
1999	53,132	47,170	33,699	13,470	5,963	4,610	1,353
2000	53,465	47,467	33,858	13,609	5,998	4,631	1,367
2001	53,735	47,707	33,994	13,713	6,028	4,650	1,377
2002	53,962	47,911	34,078	13,832	6,051	4,662	1,389
2003	54,117	48,053	34,044	14,010	6,064	4,657	1,407
2004	54,250	48,180	33,861	14,319	6,070	4,632	1,438
2005	54,349	48,276	33,660	14,617	6,073	4,604	1,468
2006	54,388	48,318	33,488	14,830	6,070	4,581	1,490
2007	54,324	48,262	33,393	14,870	6,061	4,568	1,494

[1] Beginning in fall 1980, data include estimates for the expanded universe of private schools.

[2] Enrollment includes most kindergartners and a relatively small number of nursery school students.

[3] Revised from previously published figures.

[4] Estimates based on preliminary data.

NOTE: The private school enrollment figures for years 1971–75, 1979, 1981–82, 1984, and 1986 are estimated. The 1987 private school enrollment numbers are taken from the Private School Survey (PSS). Private school enrollment figures for grades K-8 and 9-12 for the years 1988–93 are estimated from the K-12 totals. Projections are based on data through 1994. Enrollment figures may not add to totals due to rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Digest of Education Statistics, 1996*, table 3 and *Projections of Education Statistics to 2007*, 1997, table 1.

Table 44-2 Percentage of total elementary and secondary school enrollment, by control and level of school, with projections: Fall 1970–2007

Fall of year	Total	Public schools Grades K-12[2]	Public schools Grades K-8[2]	Public schools Grades 9-12	Private schools[1] Grades K-12[2]	Private schools[1] Grades K-8[2]	Private schools[1] Grades 9-12
1970	100.0	89.5	63.5	26.0	10.5	7.9	2.6
1971	100.0	89.9	63.0	26.8	10.1	7.6	2.5
1972	100.0	90.1	62.8	27.3	9.9	7.3	2.6
1973	100.0	90.1	62.2	27.8	9.9	7.3	2.6
1974	100.0	90.0	61.9	28.2	10.0	7.4	2.6
1975	100.0	90.0	61.3	28.7	10.0	7.4	2.6
1976	100.0	89.6	60.6	28.9	10.4	7.7	2.7
1977	100.0	89.4	60.3	29.2	10.6	7.8	2.8
1978	100.0	89.3	59.7	29.6	10.7	7.8	2.8
1979	100.0	89.3	60.1	29.2	10.7	7.9	2.8
1980	100.0	88.5	59.8	28.6	11.5	8.6	2.9
1981	100.0	87.9	59.9	28.0	12.1	9.0	3.1
1982	100.0	87.6	60.1	27.5	12.4	9.3	3.1
1983	100.0	87.3	60.0	27.3	12.7	9.6	3.1
1984	100.0	87.3	59.9	27.4	12.7	9.6	3.1
1985	100.0	87.6	60.1	27.5	12.4	9.3	3.0
1986	100.0	87.9	60.7	27.3	12.1	9.1	3.0
1987	100.0	88.0	61.4	26.5	12.0	9.3	2.7
1988	100.0	88.5	62.7	25.7	11.5	8.9	2.7
1989	100.0	88.3	63.5	24.8	11.7	9.1	2.6
1990	100.0	88.7	64.3	24.4	11.3	8.8	2.4
1991	100.0	89.0	64.6	24.4	11.0	8.6	2.4
1992[3]	100.0	88.8	64.5	24.3	11.2	8.7	2.4
1993[3]	100.0	88.8	64.4	24.4	11.2	9.0	2.4
1994[3,4]	100.0	88.7	64.2	24.6	11.3	8.8	2.5
1995[3,4]	100.0	88.7	63.7	25.0	11.3	8.8	2.5
1996[4]	100.0	88.8	63.8	25.0	11.2	8.7	2.5
Projected							
1997	100.0	88.8	63.6	25.2	11.2	8.7	2.5
1998	100.0	88.8	63.6	25.2	11.2	8.7	2.5
1999	100.0	88.8	63.4	25.4	11.2	8.7	2.5
2000	100.0	88.8	63.3	25.5	11.2	8.7	2.6
2001	100.0	88.8	63.3	25.5	11.2	8.7	2.6
2002	100.0	88.8	63.2	25.6	11.2	8.6	2.6
2003	100.0	88.8	62.9	25.9	11.2	8.6	2.6
2004	100.0	88.8	62.4	24.6	11.2	8.5	2.7
2005	100.0	88.8	61.9	26.9	11.2	8.5	2.7
2006	100.0	88.8	61.6	27.3	11.2	8.4	2.7
2007	100.0	88.8	61.5	27.4	11.2	8.4	2.8

[1] Beginning in fall 1980, data include estimates for the expanded universe of private schools.

[2] Enrollment includes most kindergartners and a relatively small number of nursery school students.

[3] Revised from previously published figures.

[4] Estimates based on preliminary data.

NOTE: The private school enrollment figures for years 1971-75, 1979, 1981-82, 1984, and 1986 are estimated. The 1987 private school enrollment numbers are taken from the Private School Survey. Private school enrollment figures for grades K-8 private school enrollment numbers are taken from the Private School Survey (PSS). Private school enrollment figures for grades K-8 and 9-12 for the years 1988-93 are estimated from the K-12 totals. Projections are based on data through 1994. Enrollment figures may not add to totals due to rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Digest of Education Statistics, 1996*, table 3 and *Projections of Education Statistics to 2007*, 1997, table 1.

Table 44-3 Public elementary and secondary school enrollment (in thousands), by region: Fall 1970–95

	United States	Northeast		Midwest		South		West	
Fall of year	Total number	Number	Percent	Number	Percent	Number	Percent	Number	Percent
1970	45,893	9,859	21.5	12,935	28.2	14,759	32.2	8,339	18.2
1971	46,071	9,971	21.6	12,969	28.2	14,777	32.1	8,352	18.1
1972	45,726	9,961	21.8	12,868	28.1	14,632	32.0	8,262	18.1
1973	45,444	9,848	21.7	12,666	27.9	14,677	32.3	8,252	18.2
1974	45,073	9,755	21.6	12,510	27.8	14,626	32.5	8,180	18.2
1975	44,819	9,679	21.6	12,294	27.4	14,654	32.7	8,190	18.3
1976	43,310	9,464	21.9	12,097	27.9	14,578	33.7	8,171	18.9
1977	43,577	9,156	21.0	11,763	27.0	14,560	33.4	8,096	18.6
1978	42,550	8,828	20.7	11,320	26.6	14,431	33.9	7,970	18.7
1979	41,650	8,479	20.4	11,031	26.5	14,258	34.2	7,881	18.9
1980	40,877	8,215	20.1	10,698	26.2	14,134	34.6	7,831	19.2
1981	40,044	7,891	19.7	10,372	25.9	13,990	34.9	7,791	19.5
1982	[1]39,566	7,674	19.4	10,139	25.6	13,945	35.2	7,807	19.7
1983	39,252	7,513	19.1	9,986	25.4	13,914	35.4	7,839	20.0
1984	39,208	7,395	18.9	9,889	25.2	13,963	35.6	7,961	20.3
1985	[1]39,422	7,318	18.6	9,862	25.0	14,117	35.8	8,124	20.6
1986	39,753	7,294	18.3	9,871	24.8	14,312	36.0	8,276	20.8
1987	40,008	7,252	18.1	9,870	24.7	14,419	36.0	8,468	21.2
1988	[1]40,189	7,208	17.9	9,846	24.5	14,491	36.1	8,644	21.5
1989	[1]40,543	7,200	17.8	9,849	24.3	14,605	36.0	8,889	21.9
1990	41,217	7,282	17.7	9,944	24.1	14,807	35.9	9,184	22.3
1991	42,047	7,407	17.6	10,080	24.0	15,021	35.7	9,479	22.5
1992[1]	42,823	7,526	17.6	10,198	23.8	15,357	35.9	9,742	22.7
1993[1]	43,465	7,654	17.6	10,289	23.7	15,591	35.9	9,931	22.8
1994[1]	44,109	7,761	17.6	10,385	23.5	15,849	35.9	10,114	22.9
1995[2]	44,662	7,919	17.7	10,487	23.5	16,018	35.9	10,238	22.9

[1] Revised from previously published figures.

[2] Data estimated by state education agencies.

NOTE: Enrollment figures and percentages may not add to totals due to rounding. Enrollment includes most kindergartners and a relatively small number of nursery school students. The regions of the United States for this analysis are those used by the Census Bureau in the Current Population Survey (CPS). The regions and their states follow: Northeast: Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont. Midwest: Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, Wisconsin. South: Alabama, Arkansas, Delaware, District of Columbia, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, West Virginia. West: Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, Wyoming.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Digest of Education Statistics, 1996*, table 39.

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Table 45-1 Percentage of public schools that enrolled students with limited English proficiency, that provided bilingual or ESL programs, and that found it difficult or impossible to fill teacher vacancies in this field, by region and state: School years 1987–88, 1990–91, and 1993–94

Region and state	Percentage of schools with LEP students	Percentage of schools providing:						Percentage of schools with bilingual/ESL vacancies that found them difficult or impossible to fill*	
		Bilingual programs		ESL programs		Either bilingual or ESL programs			
	1993–94	1987–88	1993–94	1987–88	1993–94	1987–88	1993–94	1990–91	1993–94
Total	**46.3**	**20.0**	**17.8**	**34.4**	**42.7**	**39.6**	**44.3**	**38.2**	**27.2**
Region									
Northeast	52.2	20.1	14.1	46.4	53.2	49.8	54.0	39.7	12.8
Midwest	26.6	11.9	9.6	18.9	23.7	23.8	25.2	33.5	23.5
South	44.4	14.9	14.0	28.2	38.7	32.8	40.6	32.1	26.7
West	72.3	40.0	38.3	56.1	66.9	64.4	68.9	44.4	34.5
State									
Alabama	14.5	8.1	1.6	7.5	10.8	12.0	11.1	—	—
Alaska	48.7	73.9	60.5	38.0	48.3	79.2	72.8	—	—
Arizona	87.5	42.9	37.0	63.9	78.5	73.5	80.2	41.3	32.0
Arkansas	28.4	3.9	6.2	7.7	21.3	10.2	22.3	—	—
California	90.3	52.6	53.4	73.4	84.0	80.4	84.6	51.1	41.6
Colorado	56.2	32.0	25.2	52.2	55.9	63.0	58.7	—	—
Connecticut	52.5	23.7	8.5	50.0	56.0	57.6	56.9	—	—
Delaware	62.5	24.2	14.8	22.8	50.5	33.6	50.5	—	—
District of Columbia	47.1	18.2	19.1	28.3	42.4	34.6	44.2	—	—
Florida	66.5	28.8	25.6	38.7	60.2	47.6	60.9	6.8	4.6
Georgia	34.4	8.9	8.7	19.3	32.0	24.1	33.0	—	—
Hawaii	96.3	56.9	39.8	88.1	90.7	95.7	93.7	—	—
Idaho	63.5	27.3	26.4	37.3	52.8	46.7	54.1	—	—
Illinois	33.0	18.9	16.5	27.7	30.0	34.7	30.7	—	—
Indiana	27.5	8.2	5.8	12.1	18.3	13.6	20.2	—	—
Iowa	16.5	8.1	2.8	19.6	18.3	20.9	18.3	—	—
Kansas	15.8	7.4	9.8	16.5	19.2	21.1	20.5	—	—
Kentucky	14.4	5.6	3.2	8.6	12.8	10.2	14.6	—	—
Louisiana	21.6	8.3	7.8	21.2	18.9	24.2	21.9	—	—
Maine	24.2	4.2	3.5	14.6	26.7	18.8	27.8	—	—
Maryland	49.7	8.5	4.5	43.8	48.4	43.8	49.5	—	—
Massachusetts	56.9	29.6	20.5	49.7	55.2	55.4	55.3	—	22.5
Michigan	43.5	26.1	20.0	18.8	34.6	33.8	38.4	—	—
Minnesota	32.4	12.3	5.8	38.8	33.3	40.8	34.1	—	—
Mississippi	14.9	10.6	4.6	8.4	11.8	14.9	12.8	—	—
Missouri	19.0	3.5	2.1	11.7	19.5	13.4	20.2	—	—
Montana	15.3	8.8	8.6	8.7	7.9	13.4	13.7	—	—
Nebraska	12.8	6.1	4.9	12.6	12.5	13.5	15.1	—	—

Table 45-1 Percentage of public schools that enrolled students with limited English proficiency, that provided bilingual or ESL programs, and that found it difficult or impossible to fill teacher vacancies in this field, by region and state: School years 1987–88, 1990–91, and 1993–94—Continued

Region and state	Percentage of schools with LEP students	Percentage of schools providing: Bilingual programs		ESL programs		Either bilingual or ESL programs		Percentage of schools with bilingual/ESL vacancies that found them difficult or impossible to fill*	
	1993-94	1987-88	1993-94	1987-88	1993-94	1987-88	1993-94	1990-91	1993-94
Nevada	71.2	16.8	23.1	50.9	66.9	57.2	67.4	—	—
New Hampshire	24.2	15.3	2.7	33.8	33.5	37.6	33.5	—	—
New Jersey	62.9	23.7	17.0	66.0	63.8	67.7	65.2	—	—
New Mexico	77.1	44.7	66.3	49.1	72.2	59.5	77.2	26.5	36.8
New York	69.1	25.7	21.3	56.3	65.9	59.7	66.3	33.6	9.5
North Carolina	48.1	7.2	13.3	13.1	36.5	17.9	38.0	—	—
North Dakota	16.8	7.9	6.2	13.4	15.1	17.3	17.2	—	—
Ohio	24.4	6.9	8.6	15.7	20.9	18.1	22.6	—	—
Oklahoma	38.6	16.2	16.2	15.5	26.0	23.2	31.8	—	—
Oregon	55.3	14.3	20.6	33.9	53.2	36.4	53.2	—	—
Pennsylvania	34.0	10.2	7.1	30.0	40.4	31.8	41.7	—	—
Rhode Island	58.0	26.4	6.3	58.0	50.8	63.7	51.7	—	—
South Carolina	32.7	6.7	2.2	11.9	28.2	11.9	28.2	—	—
South Dakota	8.8	12.7	2.6	9.5	7.1	16.0	7.5	—	—
Tennessee	19.6	6.5	0.8	13.1	13.9	15.8	14.2	—	—
Texas	77.6	34.0	32.1	65.9	71.0	73.4	74.5	45.8	40.1
Utah	61.2	24.1	20.9	20.9	52.7	32.1	53.9	—	—
Vermont	20.1	3.1	3.1	12.9	20.1	14.4	20.1	—	—
Virginia	45.6	4.1	5.2	26.2	42.5	26.2	43.8	—	—
Washington	62.1	27.2	17.8	47.0	58.4	53.2	59.3	—	19.2
West Virginia	7.3	—	0.0	3.4	3.0	4.6	3.0	—	—
Wisconsin	27.2	6.5	6.7	17.2	24.8	19.3	25.1	—	—
Wyoming	17.9	14.1	5.6	23.7	14.8	28.1	15.4	—	—

— Too few sample observations for a reliable estimate.

* Percentage of schools that had difficulty filling vacancies was not available for 1987-88.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey, 1987-88, 1990-91, and 1993-94 (School Questionnaire).

Table 46-1 Number of children who were served by federally supported programs for students with disabilities, by type of disability: School years ending 1977–95

Type of disability	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986
	Number served (in thousands)									
All disabilities	**3,692**	**3,751**	**3,889**	**4,005**	**4,142**	**4,198**	**4,255**	**4,298**	**4,315**	**4,317**
Specific learning disabilities	796	964	1,130	1,276	1,462	1,622	1,741	1,806	1,832	1,862
Speech or language impairments	1,302	1,223	1,214	1,186	1,168	1,135	1,131	1,128	1,126	1,125
Mental retardation	959	933	901	869	829	786	757	727	694	660
Serious emotional disturbance	283	288	300	329	346	339	352	361	372	375
Hearing impairments	87	85	85	80	79	75	73	72	69	66
Orthopedic impairments	87	87	70	66	58	58	57	56	56	57
Other health impairments	141	135	105	106	98	79	50	53	68	57
Visual impairments	38	35	32	31	31	29	28	29	28	27
Multiple disabilities	—	—	50	60	68	71	63	65	69	86
Deaf-blindness	—	—	2	2	3	2	2	2	2	2
Preschool disabled[1]	([2])	([2])	([2])	([2])	([2])	([2])	([2])	([2])	([2])	([2])

Type of disability	1987	1988	1989	1990	1991	1992	1993	1994[3]	1995[4]
	Number served (in thousands)								
All disabilities	**4,374**	**4,447**	**4,544**	**4,641**	**4,762**	**4,949**	**5,125**	**5,318**	**5,440**
Specific learning disabilities	1,914	1,928	1,987	2,050	2,130	2,234	2,354	2,424	2,508
Speech or language impairments	1,136	953	967	973	985	997	996	1,005	1,022
Mental retardation	643	582	564	548	534	538	519	536	570
Serious emotional disturbance	383	373	376	381	390	399	401	413	428
Hearing impairments	65	56	56	57	58	60	60	63	65
Orthopedic impairments	57	47	47	48	49	51	52	56	61
Other health impairments	52	45	43	52	55	58	65	82	106
Visual impairments	26	22	23	22	23	24	23	24	25
Multiple disabilities	97	77	85	86	96	97	102	108	89
Deaf-blindness	2	1	2	2	1	1	1	1	1
Preschool disabled[1]	([2])	363	394	422	441	484	531	582	524

— Not available.

[1] Includes preschool children aged 3-5 and were served under Chapter 1 of the Education Consolidation and Improvement Act (ECIA) and those aged 0-5 served under Part B of the Individuals with Disabilities Education Act (IDEA), respectively.

[2] Prior to the 1987-88 school year, preschool disabled students were included in the counts by disabling condition. Beginning in the 1987-88 school year, states were no longer required to report preschool students (0-5 years) with disabilities by disabling condition.

[3] Revised from previously published figures.

[4] Data for 1995 are for children aged 3-21.

NOTE: This analysis includes students who were served under Chapter 1 of the ECIA and Part B of IDEA. Counts are based on reports from the 50 states and the District of Columbia only (i.e., figures from the U.S. territories are not included). Increases since 1987-88 are due in part to new legislation enacted in fall 1986, which mandates public school appropriate education services for all disabled children aged 3-5. Details may not add to totals due to rounding.

SOURCE: U.S. Department of Education, Office of Special Education and Rehabilitative Services, Eighteenth Annual *Report to Congress on the Implementation of the Individuals with Disabilities Education Act,* Tables 1.3, AA1, and AA2; and National Center for Education Statistics, *Digest of Education Statistics, 1996,* table 51.

Table 46-2 Participation in special education programs as a percentage of total public school enrollment, by selected types of disability, sex, and race/ethnicity of student: School years ending 1986, 1988, 1990, and 1992

Type of disability	1986	1988	1990	1992
		Total		
All disabilities listed	6.2	6.3	6.8	7.3
Specific learning disabilities	4.3	4.4	4.8	5.3
Mental retardation*	1.3	1.3	1.3	1.3
Serious emotional disturbance	0.6	0.6	0.7	0.7
		Male		
All disabilities listed	8.2	8.6	9.2	9.7
Specific learning disabilities	5.8	6.2	6.6	7.2
Mental retardation*	1.4	1.6	1.6	1.5
Serious emotional disturbance	0.9	0.9	1.0	1.1
		Female		
All disabilities listed	4.0	4.1	4.4	4.7
Specific learning disabilities	2.6	2.7	3.0	3.3
Mental retardation*	1.1	1.1	1.1	1.1
Serious emotional disturbance	0.3	0.2	0.3	0.3
		White		
All disabilities listed	5.9	6.1	6.7	7.2
Specific learning disabilities	4.3	4.5	5.0	5.3
Mental retardation*	1.1	1.0	1.1	1.1
Serious emotional disturbance	0.6	0.6	0.7	0.7
		Black		
All disabilities listed	8.2	8.3	8.7	9.3
Specific learning disabilities	4.4	4.5	5.0	5.8
Mental retardation*	2.7	3.0	2.8	2.5
Serious emotional disturbance	1.0	0.8	0.9	1.0
		Hispanic		
All disabilities listed	5.5	6.2	6.3	6.5
Specific learning disabilities	4.3	4.5	4.7	5.3
Mental retardation*	0.8	1.4	1.3	0.8
Serious emotional disturbance	0.5	0.3	0.3	0.4

* Includes all students classified with any level of mental retardation.

NOTE: The *National Summaries from the Elementary and Secondary School Civil Rights Survey* report includes data for the three disability categories shown. Therefore, the "All disabilities listed" category shown in this table includes only the following three categories: specific learning disabilities, mental retardation, and serious emotional disturbance. Prior to the 1987-88 school year, preschool disabled students were included in the counts by disabling condition. Beginning in the 1987-88 school year, states were no longer required to report preschool students (0-5 years) with disabilities by disabling condition.

SOURCE: U.S. Department of Education, Office for Civil Rights, *National Summaries from the Elementary and Secondary School Civil Rights Survey*, various years.

Table 46-3 Percentage of public school children with disabilities who were served in various school environments, by type of disability and classroom environment: School years ending 1986–94

Type of disability	1986	1987	1988	1989	1990	1991	1992	1993	1994
	Regular class/resource room combined in regular school building								
All disabilities	**69.0**	**69.2**	**69.0**	**69.6**	**69.2**	**69.3**	**71.2**	**71.5**	**72.9**
Specific learning disabilities	77.8	76.8	76.7	77.5	76.8	76.2	78.8	78.7	80.4
Speech or language impairments	94.7	93.9	94.6	94.6	94.6	92.8	94.6	92.5	95.1
Mental retardation	28.8	29.8	29.2	28.0	26.5	30.4	30.5	33.9	34.7
Serious emotional disturbance	44.1	46.0	45.5	44.2	43.5	45.9	43.6	46.3	46.2
Hearing impairments	43.8	46.9	45.4	48.2	45.3	46.6	47.6	49.2	50.5
Orthopedic impairments	48.0	47.5	45.7	47.8	48.6	51.7	53.4	55.1	58.1
Other health impairments	47.6	59.0	51.5	50.3	53.4	57.8	62.9	67.4	67.1
Visual impairments	62.6	62.3	63.1	65.0	62.8	65.3	60.8	66.6	66.4
Multiple disabilities	20.6	24.3	20.1	21.4	20.5	23.8	24.3	26.7	28.8
Deaf-blindness	26.0	26.1	15.2	17.0	24.6	16.9	12.1	22.0	15.7
	Separate class in regular school building								
All disabilities	**24.4**	**24.8**	**24.7**	**24.2**	**24.9**	**25.1**	**23.5**	**23.5**	**22.7**
Specific learning disabilities	20.8	21.2	21.8	21.0	21.7	22.4	20.1	20.1	18.8
Speech or language impairments	3.7	4.1	3.8	3.8	3.8	5.6	3.9	6.0	4.5
Mental retardation	57.3	58.4	58.0	58.3	61.1	58.3	59.2	56.8	57.0
Serious emotional disturbance	36.1	36.8	34.5	35.8	37.1	35.8	36.9	35.2	35.3
Hearing impairments	32.5	32.9	35.1	33.4	31.7	32.8	31.3	28.1	30.6
Orthopedic impairments	31.0	33.4	32.0	33.7	34.7	33.1	34.4	34.1	33.3
Other health impairments	24.8	19.9	18.8	19.6	24.6	26.3	21.5	20.6	21.3
Visual impairments	19.2	21.9	21.0	20.6	21.1	19.9	19.6	18.0	18.3
Multiple disabilities	44.5	48.2	46.6	46.8	43.7	42.8	47.1	44.6	44.1
Deaf-blindness	22.2	37.5	36.9	29.6	29.9	32.0	36.5	31.4	34.2

SOURCE: U.S. Department of Education, Office of Special Education and Rehabilitative Services, *Eighteenth Annual Report to Congress on the Implementation of the Individuals with Disabilities Education Act*, table AB2.

Table 46-4 Percentage distribution of children who were served by federally supported programs for students with disabilities, by type of disability: School years ending 1977–95

Type of disability	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986
All disabilities	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Specific learning disabilities	21.6	25.7	29.1	31.9	35.3	38.6	40.9	42.0	42.5	43.1
Speech or language impairments	35.3	32.6	31.2	29.6	28.2	27.0	26.6	26.2	26.1	26.1
Mental retardation	26.0	24.9	23.2	21.7	20.0	18.7	17.8	16.9	16.1	15.3
Serious emotional disturbance	7.7	7.7	7.7	8.2	8.4	8.1	8.3	8.4	8.6	8.7
Hearing impairments	2.4	2.3	2.2	2.0	1.9	1.8	1.7	1.7	1.6	1.5
Orthopedic impairments	2.4	2.3	1.8	1.6	1.4	1.4	1.3	1.3	1.3	1.3
Other health impairments	3.8	3.6	2.7	2.6	2.4	1.9	1.2	1.2	1.6	1.3
Visual impairments	1.0	0.9	0.8	0.8	0.7	0.7	0.7	0.7	0.6	0.6
Multiple disabilities	—	—	1.3	1.5	1.6	1.7	1.5	1.5	1.6	2.0
Deaf-blindness	—	—	0.1	[1]0.0	0.1	[1]0.0	[1]0.0	[1]0.0	[1]0.0	[1]0.0
Preschool disabled[2]	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)

Type of disability	1987	1988	1989	1990	1991	1992	1993	1994[4]	1995[5]
All disabilities	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Specific learning disabilities	43.8	43.4	43.7	44.2	44.7	45.1	45.9	45.6	46.1
Speech or language impairments	26.0	21.4	21.3	21.0	20.7	20.1	19.4	18.9	18.8
Mental retardation	14.7	13.1	12.4	11.8	11.2	10.9	10.1	10.1	10.5
Serious emotional disturbance	8.8	8.4	8.3	8.2	8.2	8.1	7.8	7.8	7.9
Hearing impairments	1.5	1.3	1.2	1.2	1.2	1.2	1.2	1.2	1.2
Orthopedic impairments	1.3	1.1	1.0	1.0	1.0	1.0	1.0	1.1	1.1
Other health impairments	1.2	1.0	0.9	1.1	1.2	1.2	1.3	1.5	1.9
Visual impairments	0.6	0.5	0.5	0.5	0.5	0.5	0.4	0.5	0.5
Multiple disabilities	2.2	1.7	1.9	1.9	2.0	2.0	2.0	2.0	1.6
Deaf-blindness	[1]0.0	[1]0.0	[1]0.0	[1]0.0	[1]0.0	[1]0.0	[1]0.0	[1]0.0	[1]0.0
Preschool disabled[2]	(3)	8.2	8.7	9.1	9.3	9.8	10.4	10.9	9.6

— Not available.

[1] Percents less than 0.05 are rounded to 0.0.

[2] Includes preschool children aged 3–5 who were served under Chapter 1 of the Education Consolidation and Improvement Act (ECIA) and those who were served under Part B of the Individuals with Disabilities and Education Act (IDEA), respectively.

[3] Prior to the 1987–88 school year, preschool disabled students were included in the counts by type of disabling condition. Beginning in the 1987–88 school year, states were no longer required to report preschool students (0–5 years) with disabilities by disabling condition.

[4] Revised from previously published figures.

[5] Data for 1995 are for children aged 3-21.

NOTE: This analysis includes students who were served under Chapter 1 of the ECIA and Part B of IDEA. Counts are based on reports from the 50 states and the District of Columbia only (i.e., figures from the U.S. territories are not included). Increases since 1987-88 are due in part to new legislation enacted in fall 1986, which mandates public school appropriate education services for all disabled children aged 3-5. Details may not add to totals due to rounding.

SOURCE: U.S. Department of Education, Office of Special Education and Rehabilitative Services, *Eighteenth Annual Report to Congress on the Implementation of the Individuals with Disabilities Education Act, Tables AA1* and AA2; and National Center for Education Statistics, *Digest of Education Statistics, 1996*, table 51.

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Table 47-1 Percentage of high school seniors who reported using alcohol or drugs any time during the previous year, by type of drug: 1975–96

Type of drug	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
Alcohol	84.8	85.7	87.0	87.7	88.1	87.9	87.0	86.8	87.3	86.0	85.6
Marijuana	40.0	44.5	47.6	50.2	50.8	48.8	46.1	44.3	42.3	40.0	40.6
Any illicit drug other than marijuana	26.2	25.4	26.0	27.1	28.2	30.4	34.0	30.1	28.4	28.0	27.4
Stimulants	16.2	15.8	16.3	17.1	18.3	20.8	26.0	20.3	17.9	17.7	15.8
Inhalants	—	3.0	3.7	4.1	5.4	4.6	4.1	4.5	4.3	5.1	5.7
LSD	7.2	6.4	5.5	6.3	6.6	6.5	6.5	6.1	5.4	4.7	4.4
Cocaine	5.6	6.0	7.2	9.0	12.0	12.3	12.4	11.5	11.4	11.6	13.1
Sedatives	11.7	10.7	10.8	9.9	9.9	10.3	10.5	9.1	7.9	6.6	5.8
Tranquilizers	10.6	10.3	10.8	9.9	9.6	8.7	8.0	7.0	6.9	6.1	6.1

Type of drug	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
Alcohol	84.5	85.7	85.3	82.7	80.6	77.7	76.8	*72.7	*73.0	*73.7	*72.5
Marijuana	38.8	36.3	33.1	29.6	27.0	23.9	21.9	26.0	30.7	34.7	35.8
Any illicit drug other than marijuana	25.9	24.1	21.1	20.0	17.9	16.2	14.9	17.1	18.0	19.4	19.8
Stimulants	13.4	12.2	10.9	10.8	9.1	8.2	7.1	8.4	9.4	9.3	9.5
Inhalants	6.1	6.9	6.5	5.9	6.9	6.6	6.2	7.0	7.7	8.0	7.6
LSD	4.5	5.2	4.8	4.9	5.4	5.2	5.6	6.8	6.9	8.4	8.8
Cocaine	12.7	10.3	7.9	6.5	5.3	3.5	3.1	3.3	3.6	4.0	4.9
Sedatives	5.2	4.1	3.7	3.7	3.6	3.6	2.9	3.4	4.2	4.9	—
Tranquilizers	5.8	5.5	4.8	3.8	3.5	3.6	2.8	3.5	3.7	4.4	4.6

— Not available.

* In 1993, the questions regarding alcohol consumption changed; therefore, data for alcohol use in 1993–96 may not be comparable to earlier years. For example, in 1993, the original wording produced an estimate of 76 percent for alcohol use.

NOTE: Only drug use not under a doctor's orders is included.

SOURCE: University of Michigan, Survey Research Center, Institute for Social Research, Monitoring the Future Study.

Table 47-2 Percentage of students who reported using alcohol or drugs any time during the previous 30 days, by type of drug and grade: 1991–1996

Type of drug and grade	1991	1992	1993	1994	1995	1996
Alcohol						
8th-graders	25.1	26.1	*24.3	*25.5	*24.6	*26.2
10th-graders	42.8	39.9	*38.2	*39.2	*38.8	*40.4
12th-graders	54.0	51.3	*48.6	*50.1	*51.3	*50.8
Marijuana/hashish						
8th-graders	3.2	3.7	5.1	7.8	9.1	11.3
10th-graders	8.7	8.1	10.9	15.8	17.2	20.4
12th-graders	13.8	11.9	15.5	19.0	21.2	21.9
Any illicit drug other than marijuana						
8th-graders	3.8	4.7	5.3	5.6	6.5	6.9
10th-graders	5.5	5.7	6.5	7.1	8.9	8.9
12th-graders	7.1	6.3	7.9	8.8	10.0	9.5
Stimulants						
8th-graders	2.6	3.3	3.6	3.6	4.2	4.6
10th-graders	3.3	3.6	4.3	4.5	5.3	5.5
12th-graders	3.2	2.8	3.7	4.0	4.0	4.1
Inhalants						
8th-graders	4.4	4.7	5.4	5.6	6.1	5.8
10th-graders	2.7	2.7	3.3	3.6	3.5	3.3
12th-graders	2.4	2.3	2.5	2.7	3.2	2.5
LSD						
8th-graders	0.6	0.9	1.0	1.1	1.4	1.5
10th-graders	1.5	1.6	1.6	2.0	3.0	2.4
12th-graders	1.9	2.0	2.4	2.6	4.0	2.5
Cocaine						
8th-graders	0.5	0.7	0.7	1.0	1.2	1.3
10th-graders	0.7	0.7	0.9	1.2	1.7	1.7
12th-graders	1.4	1.3	1.3	1.5	1.8	2.0
Tranquilizers						
8th-graders	0.8	0.8	0.9	1.1	1.2	1.5
10th-graders	1.2	1.5	1.1	1.5	1.7	1.7
12th-graders	1.4	1.0	1.2	1.4	1.8	2.0
Cigarettes						
8th-graders	14.3	15.5	16.7	18.6	19.1	21.0
10th-graders	20.8	21.5	24.7	25.4	27.9	30.4
12th-graders	28.3	27.8	29.9	31.2	33.5	34.0

* In 1993, the questions regarding alcohol consumption changed; therefore, data for alcohol use in 1993-96 may not be comparable to earlier years. For example, in 1993, the original wording produced an estimate of 26 percent for alcohol use of 8th-graders.

NOTE: Only drug use not under a doctor's orders is included.

SOURCE: University of Michigan, Survey Research Center, Institute for Social Research, Monitoring the Future Study.

Table 47-3 **Percentage of students who reported using alcohol or drugs any time during the previous year, by type of drug, grade, and selected characteristics: 1995**

Selected characteristics	Alcohol			Marijuana			Cocaine			Inhalants			Stimulants		
	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th
Total	**45.3**	**63.5**	**73.7**	**15.8**	**28.7**	**34.7**	**2.6**	**3.5**	**4.0**	**12.8**	**9.6**	**8.0**	**8.7**	**11.9**	**9.3**
Sex															
Male	46.3	63.4	74.5	17.7	30.6	38.1	2.5	3.5	4.8	11.5	10.3	9.9	7.0	9.6	9.5
Female	44.3	63.6	72.7	13.7	26.5	30.6	2.6	3.3	3.1	14.0	8.9	6.2	10.3	14.1	8.9
College plans															
Less than 4 years or none	59.6	75.0	78.6	30.3	41.8	39.0	7.0	7.2	5.6	19.6	14.6	9.7	17.1	19.9	12.3
Complete 4 years	43.4	61.6	72.0	13.8	26.4	32.6	2.0	2.8	3.4	11.9	8.7	7.4	7.6	10.6	8.3
Region															
Northeast	47.3	65.1	79.0	13.0	28.8	37.7	2.2	2.5	3.8	13.1	10.4	10.3	7.3	9.8	9.6
North Central	46.2	64.3	77.5	17.5	26.6	36.9	2.6	2.9	3.4	13.8	10.4	8.6	10.6	13.3	9.5
South	45.7	63.3	72.6	14.7	28.4	31.8	2.4	3.5	3.6	12.1	9.4	7.0	8.6	12.8	9.2
West	41.4	61.1	64.8	18.4	32.2	33.8	3.3	5.3	5.8	12.4	8.1	6.7	7.9	10.6	8.9
Population density															
Large metropolitan statistical area	43.5	61.0	73.7	15.6	27.8	37.5	2.4	3.4	4.4	11.7	8.7	8.5	7.2	9.2	9.1
Other metropolitan statistical area	46.5	64.6	73.2	17.2	31.2	34.9	2.8	3.5	3.9	13.7	9.7	7.8	8.9	12.8	8.5
Non-metropolitan statistical area	45.1	64.2	74.4	13.7	24.8	31.0	2.4	3.6	3.9	12.3	10.5	7.8	10.1	13.3	10.8
Parents' education range*															
Some high school or less	52.0	65.4	70.8	23.0	32.0	30.9	4.9	5.3	4.8	13.0	9.4	7.5	11.8	14.3	9.9
Some high school to completed high school	50.5	67.4	74.7	17.9	31.8	33.8	2.4	4.3	3.9	13.9	11.0	8.0	10.6	14.2	9.9
Completed high school to some college	48.1	65.7	74.4	17.2	30.0	34.2	2.8	3.7	4.2	14.7	10.2	6.7	10.1	12.4	9.1
Some college to completed college	40.8	61.9	73.2	12.7	27.0	35.0	1.9	2.6	3.7	12.3	9.4	8.9	6.8	10.7	9.2
Completed college to at least some graduate or professional school	40.9	57.9	74.2	13.0	23.4	37.5	2.5	1.9	3.4	11.6	7.0	9.7	6.4	8.8	8.1

* Parents' education range is an average of the reported level of the student's mother and father.

SOURCE: Lloyd D. Johnston, Patrick O'Malley, and Jerald G. Bachman, *National Survey Results on Drug Use from the Monitoring the Future Study, 1975-1995, Volume I, Secondary School Students*, Table 7. Institute for Social Research, University of Michigan, 1996.

Table 49-1 Teachers' perceptions and attitudes toward teaching, by control of school: School years 1987–88 and 1993–94

Perceptions and attitudes	Public		Private	
	1987-88	1993-94	1987-88	1993-94
Percentage of teachers who strongly agree with the following:				
Teachers in this school are evaluated fairly	37.8	42.0	51.8	55.2
The principal lets staff members know what is expected of them	48.3	48.0	54.4	56.1
The school administration's behavior toward the staff is supportive and encouraging	40.5	41.2	59.8	60.7
I am satisfied with my teaching salary	7.6	12.3	11.5	13.6
The level of student misbehavior (e.g., noise, horseplay, or fighting in the halls, cafeteria, or student lounge) in this school interferes with my teaching	11.7	13.8	4.6	4.5
Teachers participate in making most of the important educational decisions in this school	13.7	14.6	27.5	30.3
I receive a great deal of support from parents for the work I do	16.0	12.5	40.1	41.8
Necessary materials are available as needed by the staff	37.4	32.6	52.7	52.9
The principal does a poor job of getting resources for this school	3.9	3.8	3.5	2.3
Routine duties and paperwork interfere with my job of teaching	29.6	26.6	9.4	7.9
My principal enforces school rules for student conduct and backs me up when I need it	50.0	45.8	62.8	63.1
The principal talks with me frequently about my instructional practices	12.4	10.4	18.2	17.4
Rules for student behavior are consistently enforced by teachers in this school, even for students who are not in their classes	23.8	22.3	38.3	39.5
Most of my colleagues share my beliefs and values about what the central mission of the school should be	35.5	33.2	56.8	62.8
The principal knows what kind of school he/she wants and has communicated it to the staff	45.9	43.1	58.2	61.4
There is a great deal of cooperative effort among the staff members	35.3	33.7	56.7	57.8
In this school, staff members are recognized for a job well done	25.5	25.0	38.8	41.8
I have to follow rules in this school that conflict with my best professional judgment	5.9	5.4	4.1	3.4
I am satisfied with my class size	35.8	32.0	57.8	58.9
I make a conscious effort to coordinate the content of my courses with that of other teachers	40.5	38.2	42.9	42.4
Goals and priorities for the school are clear	40.2	37.9	55.9	58.0
The amount of student tardiness and class cutting in this school interferes with my teaching	11.7	7.9	3.9	1.8
I sometimes feel it is a waste of time to try to do my best as a teacher	7.6	6.5	3.3	2.7
I plan with the library media specialist/librarian for the integration of library/media services into my teaching	—	24.1	—	22.3
Library/media materials are adequate to support my instructional objectives	—	23.8	—	24.0
If I could go back to college and start again I would most likely* become a teacher again	66.0	69.5	76.2	80.5

— Not available.

* Includes those teachers who responded "certainly would become a teacher" and "probably would become a teacher."

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey, 1987-88 and 1993-94.

Table 49-2 Teachers' perceptions and attitudes toward teaching, by control and level of school: School year 1993–94

Perceptions and attitudes	Public		Private	
	Elementary	Secondary	Elementary	Secondary
Percentage of teachers who strongly agree with the following:				
Teachers in this school are evaluated fairly	46.8	36.8	58.0	51.2
The principal lets staff members know what is expected of them	51.5	44.1	58.4	53.0
The school administration's behavior toward the staff is supportive and encouraging	44.1	38.0	63.5	56.9
I am satisfied with my teaching salary	11.9	12.8	13.0	14.4
The level of student misbehavior (e.g., noise, horseplay, or fighting in the halls, cafeteria, or student lounge) in this school interferes with my teaching	12.1	15.5	4.3	4.9
Teachers participate in making most of the important educational decisions in this school	17.9	11.0	32.5	27.2
I receive a great deal of support from parents for the work I do	16.3	8.3	48.0	33.2
Necessary materials are available as needed by the staff	33.7	31.5	52.6	53.2
The principal does a poor job of getting resources for this school	3.7	4.0	2.4	2.2
Routine duties and paperwork interfere with my job of teaching	27.3	25.7	7.4	8.5
My principal enforces school rules for student conduct and backs me up when I need it	50.1	41.1	65.8	59.4
The principal talks with me frequently about my instructional practices	13.0	7.7	20.5	13.1
Rules for student behavior are consistently enforced by teachers in this school, even for students who are not in their classes	30.3	13.6	46.9	29.0
Most of my colleagues share my beliefs and values about what the central mission of the school should be	40.4	25.4	68.5	54.8
The principal knows what kind of school he/she wants and has communicated it to the staff	47.9	37.9	65.0	56.4
There is a great deal of cooperative effort among the staff members	40.1	26.7	61.4	52.7
In this school, staff members are recognized for a job well done	29.2	20.5	45.5	36.7
I have to follow rules in this school that conflict with my best professional judgment	5.2	5.6	2.9	4.1
I am satisfied with my class size	33.6	30.3	58.3	59.6
I make a conscious effort to coordinate the content of my courses with that of other teachers	44.6	31.3	47.9	34.8
Goals and priorities for the school are clear	43.9	31.5	61.2	53.5
The amount of student tardiness and class cutting in this school interferes with my teaching	3.5	12.7	1.5	2.4
I sometimes feel it is a waste of time to try to do my best as a teacher	5.1	8.0	2.4	3.3
I plan with the library media specialist/librarian for the integration of library/media services into my teaching	24.5	23.6	23.0	21.3
Library/media materials are adequate to support my instructional objectives	23.4	24.2	22.9	25.6
If I could go back to college and start again I would most likely* become a teacher again	72.5	66.3	81.5	79.0

* Includes those teachers who responded "certainly would become a teacher" and "probably would become a teacher."

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey, 1993–94.

Table 49-3 Public school teachers' perceptions and attitudes toward teaching, by percentage of students eligible for free or reduced-price lunch: School year 1993–94

Perceptions and attitudes	Total	Percentage of students eligible for free or reduced-price lunch			
		0–5	6–20	21–40	41 or more
Percentage of teachers who strongly agree with the following:					
Teachers in this school are evaluated fairly	42.0	41.3	41.1	43.5	42.3
The principal lets staff members know what is expected of them	48.0	46.8	46.4	49.0	49.1
The school administration's behavior toward the staff is supportive and encouraging	41.2	39.7	40.1	43.0	41.9
I am satisfied with my teaching salary	12.3	21.1	13.6	11.5	8.8
The level of student misbehavior (e.g., noise, horseplay, or fighting in the halls, cafeteria, or student lounge) in this school interferes with my teaching	13.8	8.2	10.3	13.1	18.3
Teachers participate in making most of the important educational decisions in this school	14.6	13.4	14.1	15.5	14.6
I receive a great deal of support from parents for the work I do	12.5	18.5	14.1	11.5	10.2
Necessary materials are available as needed by the staff	32.6	38.8	34.4	33.6	29.6
The principal does a poor job of getting resources for this school	3.8	4.2	3.6	3.6	4.2
Routine duties and paperwork interfere with my job of teaching	26.6	23.1	26.8	25.8	28.3
My principal enforces school rules for student conduct and backs me up when I need it	45.8	43.0	44.3	48.8	46.4
The principal talks with me frequently about my instructional practices	10.4	9.7	8.4	9.8	12.7
Rules for student behavior are consistently enforced by teachers in this school, even for students who are not in their classes	22.3	20.3	20.0	21.0	25.7
Most of my colleagues share my beliefs and values about what the central mission of the school should be	33.2	31.8	31.0	33.9	35.1
The principal knows what kind of school he/she wants and has communicated it to the staff	43.1	44.2	40.2	43.8	44.9
There is a great deal of cooperative effort among the staff members	33.7	32.7	33.5	34.8	34.3
In this school, staff members are recognized for a job well done	25.0	24.7	23.2	25.6	26.8
I have to follow rules in this school that conflict with my best professional judgment	5.4	4.8	4.2	4.6	6.9
I am satisfied with my class size	32.0	31.9	30.7	32.6	33.2
I make a conscious effort to coordinate the content of my courses with that of other teachers	38.2	41.4	37.6	37.0	39.1
Goals and priorities for the school are clear	37.9	38.5	35.2	38.3	39.6
The amount of student tardiness and class cutting in this school interfere with my teaching	7.9	5.7	7.1	7.4	9.4
I sometimes feel it is a waste of time to try to do my best as a teacher	6.5	5.5	6.0	5.5	7.4
I plan with the library media specialist/librarian for the integration of library/media services into my teaching	24.1	24.8	24.6	23.5	24.6
Library/media materials are adequate to support my instructional objectives	23.8	27.4	24.3	23.2	22.6
If could go back to college and start again would most likely* become a teacher again	69.5	72.1	68.2	69.9	69.5

* Includes those teachers who responded "certainly would become a teacher" and "probably would become a teacher."

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey, 1993–94.

Table 50-1 Percentage of college students aged 16–24 who were employed in October, by race/ethnicity, hours worked per week, and enrollment status: 1970–95

	All students			White			Black			Hispanic		
October	Total[1]	20 or more hours	35 or more hours	Total[1]	20 or more hours	35 or more hours	Total[1]	20 or more hours	35 or more hours	Total[1]	20 or more hours	35 or more hours
						Full-time college students						
1970	33.8	14.1	3.7	34.9	14.7	3.9	21.2	8.0	1.8	—	—	—
1971	34.1	14.8	3.7	35.8	15.6	3.8	16.9	6.1	2.5	—	—	—
1972	35.1	15.0	3.4	36.3	15.2	3.2	21.5	12.2	5.8	42.7	21.0	2.5
1973	36.4	16.8	4.4	37.6	17.4	4.3	27.7	14.2	5.8	34.8	13.8	3.3
1974	36.6	17.0	4.7	38.2	17.4	4.7	23.2	13.0	5.0	34.4	15.8	6.8
1975	35.2	16.6	4.6	36.3	17.0	4.6	23.8	13.0	4.7	39.0	17.5	4.5
1976	37.5	16.9	4.0	39.6	17.7	3.9	22.7	11.9	4.7	35.4	14.8	3.1
1977	38.8	18.1	4.2	40.9	18.9	4.0	20.8	10.5	5.3	42.9	23.5	4.6
1978	39.9	19.0	4.7	41.8	19.7	4.7	22.2	11.7	4.7	53.2	26.8	7.4
1979	38.1	18.0	4.0	40.0	18.4	3.9	24.8	13.9	5.4	35.6	20.4	5.2
1980	40.0	17.9	3.8	42.1	18.3	3.8	24.0	12.2	5.1	41.4	26.6	4.5
1981	39.3	18.7	4.2	41.6	19.5	4.1	23.8	11.7	3.8	39.2	21.9	5.9
1982	39.9	18.5	3.1	42.4	19.6	3.0	26.2	12.2	4.3	33.1	14.1	1.6
1983	40.4	18.8	3.8	42.7	19.3	4.0	28.5	16.0	2.2	33.7	20.2	5.6
1984	42.1	21.0	4.2	44.7	22.0	4.3	25.2	14.8	3.2	34.8	19.7	4.1
1985	44.2	21.5	4.3	47.4	22.6	4.4	24.1	16.0	4.9	43.5	23.2	3.5
1986	43.0	21.9	4.3	46.3	23.5	4.7	24.7	14.2	3.9	40.5	22.6	2.1
1987	44.2	22.3	4.3	45.7	22.8	4.0	31.7	15.8	4.3	52.1	31.8	7.6
1988	46.5	24.5	4.7	48.9	25.1	5.0	31.8	18.6	3.3	40.9	28.7	6.7
1989	46.5	25.2	5.4	48.8	25.6	5.6	29.3	18.5	4.3	49.6	33.8	6.0
1990	45.7	24.1	4.8	48.6	25.1	5.2	29.8	17.1	2.8	45.7	28.0	6.7
1991	47.2	25.4	5.6	49.6	26.5	6.0	31.7	19.1	3.4	54.2	30.6	4.3
1992	47.2	25.8	5.5	50.5	27.2	5.9	30.2	19.9	4.4	47.0	29.4	4.7
1993	46.3	24.6	5.1	50.1	26.5	5.5	28.9	18.0	3.8	46.7	25.1	6.3
1994	48.6	27.5	5.8	52.1	29.5	6.2	33.4	21.4	5.8	50.2	28.7	5.3
1995	47.2	26.8	6.5	50.6	28.1	6.6	35.2	23.7	4.1	37.4	24.8	8.6

Table 50-1 Percentage of college students aged 16–24 who were employed in October, by race/ethnicity, hours worked per week, and enrollment status: 1970–95—Continued

	All students			White			Black			Hispanic		
October	Total[1]	20 or more hours	35 or more hours	Total[1]	20 or more hours	35 or more hours	Total[1]	20 or more hours	35 or more hours	Total[1]	20 or more hours	35 or more hours
Part-time college students												
1970	82.5	76.2	60.4	83.0	76.6	60.7	(2)	(2)	(2)	—	—	—
1971	83.4	75.0	51.7	83.8	75.2	53.6	79.2	74.0	36.4	—	—	—
1972	83.1	76.1	53.1	84.4	77.1	54.3	73.1	69.2	41.3	(2)	(2)	(2)
1973	85.3	76.8	52.5	86.6	77.9	53.5	70.7	66.7	42.7	(2)	(2)	(2)
1974	84.4	77.2	61.0	85.7	77.8	60.4	74.2	70.8	64.0	(2)	(2)	(2)
1975	80.8	72.1	52.6	82.4	74.1	55.1	76.0	62.5	41.3	(2)	(2)	(2)
1976	84.6	76.1	53.0	85.6	77.4	53.2	72.3	66.0	58.5	(2)	(2)	(2)
1977	83.4	75.3	53.1	86.0	77.4	54.7	65.9	61.1	44.4	(2)	(2)	(2)
1978	86.1	76.6	53.9	88.0	78.3	55.7	65.2	51.7	29.2	82.3	75.9	63.3
1979	86.9	78.8	56.6	89.2	80.8	58.2	73.5	66.3	49.0	(2)	(2)	(2)
1980	85.2	75.7	53.0	87.3	77.6	55.0	72.5	58.8	36.3	76.5	71.6	50.6
1981	85.7	76.0	51.4	87.2	77.8	52.0	75.4	61.0	41.5	(2)	(2)	(2)
1982	81.1	69.7	48.1	84.4	72.3	50.0	62.5	58.1	33.1	80.6	68.9	49.5
1983	81.7	74.8	48.1	86.6	79.2	51.9	49.2	47.5	23.8	74.0	68.0	45.0
1984	84.9	77.7	55.2	87.1	79.3	57.8	67.7	63.4	45.3	89.6	83.1	50.6
1985	85.9	79.0	52.2	87.9	81.7	56.2	71.8	66.4	42.0	85.2	70.4	28.4
1986	87.2	78.0	54.4	90.0	81.0	57.4	77.0	73.8	44.3	81.0	64.3	43.7
1987	85.4	77.4	49.5	87.2	79.2	51.4	70.9	65.8	37.3	86.5	77.4	54.1
1988	88.3	81.6	54.2	90.4	84.5	55.7	78.1	68.6	46.6	83.9	72.9	52.5
1989	87.2	80.8	55.4	89.8	83.2	58.3	73.2	67.5	43.1	85.1	79.3	55.4
1990	83.7	78.7	52.7	86.8	80.5	55.3	76.9	76.3	49.5	81.8	77.7	50.4
1991	85.8	76.3	50.9	89.0	79.1	55.3	66.1	63.4	38.4	80.2	71.0	37.4
1992	83.4	75.0	47.8	87.0	78.4	49.8	77.6	67.1	45.4	73.0	65.5	38.5
1993	84.6	75.1	43.7	88.6	78.5	46.5	65.1	58.9	36.4	76.6	65.6	31.2
1994	86.4	74.9	43.7	89.2	76.8	47.9	79.8	75.0	31.5	78.3	68.5	32.3
1995	83.0	72.7	42.3	86.3	74.3	45.4	69.7	62.2	36.2	78.5	75.6	33.5

— Not available.

[1] Includes those who were employed but not at work during the survey week.

[2] Too few sample observations for a reliable estimate.

NOTE: Included in the total but not shown separately are students from other racial/ethnic groups.

SOURCE: U.S. Department of Commerce, Bureau of the Census, October Current Population Surveys.

Table 50-2 Percentage of high school students aged 16–24 who were employed in October, by race/ethnicity and hours worked per week: 1970–95

October	All students			White			Black			Hispanic		
	Total*	20 or more hours	35 or more hours	Total*	20 or more hours	35 or more hours	Total*	20 or more hours	35 or more hours	Total*	20 or more hours	35 or more hours
1970	31.5	11.6	2.8	34.0	12.7	2.9	15.6	4.5	2.0	—	—	—
1971	30.4	11.2	2.2	33.5	12.3	2.2	13.9	5.7	2.1	—	—	—
1972	32.5	13.6	2.9	37.2	15.5	3.1	12.0	5.2	2.0	22.3	8.6	2.3
1973	36.1	15.4	3.3	41.0	17.5	3.5	13.8	5.7	1.6	25.7	10.0	3.7
1974	35.2	15.1	3.1	40.0	16.9	3.4	16.3	8.1	1.9	23.3	10.7	2.8
1975	32.9	13.0	2.7	37.9	15.0	3.0	12.9	4.7	1.0	21.2	10.1	3.2
1976	33.4	14.3	2.6	38.9	16.6	2.6	12.7	5.2	2.4	20.1	10.8	2.7
1977	35.8	15.7	3.2	41.7	18.1	3.6	12.5	5.7	1.6	24.8	14.1	4.6
1978	38.2	16.2	2.9	43.9	18.4	3.2	16.1	6.8	1.4	28.0	15.9	3.1
1979	38.0	16.2	2.7	44.4	19.0	2.9	14.1	5.0	1.3	22.0	11.1	3.4
1980	35.1	13.3	2.3	40.7	15.2	2.1	13.7	5.7	1.9	24.5	11.6	4.9
1981	32.5	12.0	2.1	38.8	13.9	2.4	11.0	4.8	1.1	23.0	11.3	2.1
1982	29.5	9.7	1.6	35.9	11.8	2.0	8.9	2.4	0.1	15.0	6.2	1.5
1983	28.7	9.8	1.5	35.1	11.7	1.6	6.8	2.4	0.2	20.4	11.2	3.2
1984	31.0	11.5	1.3	36.4	13.1	1.2	13.4	6.1	0.6	23.2	10.5	3.7
1985	31.3	11.9	1.2	37.7	14.2	1.6	14.5	5.2	0.4	16.9	7.8	0.4
1986	34.1	13.7	1.9	40.3	15.7	2.2	14.5	6.5	0.8	25.8	15.8	1.7
1987	34.6	13.4	1.6	40.9	15.4	1.6	17.6	8.3	1.2	22.4	10.5	2.6
1988	35.1	14.2	1.6	40.6	16.0	1.6	19.3	8.2	1.1	23.2	10.3	2.8
1989	37.6	14.8	1.9	43.3	16.4	1.6	21.1	8.0	1.2	27.9	16.9	5.3
1990	32.1	11.9	2.0	38.0	13.6	1.8	16.7	5.0	1.0	24.6	13.2	4.5
1991	31.1	11.0	1.2	38.5	13.2	1.5	13.1	4.7	0.2	18.7	9.4	1.5
1992	29.6	10.7	1.2	36.1	12.7	1.2	13.7	5.1	0.4	18.9	9.8	2.2
1993	30.5	11.4	1.4	37.7	13.1	1.7	13.0	5.9	0.8	20.6	10.5	1.3
1994	35.1	13.5	1.7	42.7	15.5	1.6	19.4	9.4	1.1	20.9	10.9	2.9
1995	33.4	13.6	1.9	40.4	16.2	1.8	17.9	8.1	1.1	21.5	9.3	2.9

— Not available.

* Includes those who were employed but not at work during the survey week.

NOTE: Included in the total but not shown separately are students from other racial/ethnic groups.

SOURCE: U.S. Department of Commerce, Bureau of the Census, October Current Population Surveys.

Table 52-1 Percentage distribution of public school expenditures, by function and selected district characteristics: School year 1992–93

Selected district characteristics	Percentage distribution	Total	Instruction	Support services	Capital outlay	Other
Median household income						
Less than $20,000	18.1	100.0	57.2	32.6	8.3	1.9
20,000–24,999	27.4	100.0	57.4	31.4	8.6	2.6
25,000–29,999	20.8	100.0	58.0	30.5	8.3	3.2
30,000–34,999	12.9	100.0	56.3	31.6	9.5	2.6
35,000 or more	20.8	100.0	56.1	31.6	9.5	2.9
Percentage of school-age children in poverty						
0–5	15.8	100.0	56.1	31.6	9.0	3.3
6–20	53.7	100.0	56.4	31.0	9.9	2.7
21–40	25.2	100.0	58.3	31.5	7.5	2.7
41 or more	5.3	100.0	56.0	34.1	8.0	1.9
Percentage of limited English proficient school-age children						
None	41.1	100.0	56.4	30.4	8.3	4.9
Less than 5	54.0	100.0	56.5	31.5	9.4	2.5
5 or more	4.9	100.0	59.4	30.8	6.6	3.1
Percentage of minority school-age children						
Less than 20 percent	82.6	100.0	56.7	30.6	9.7	3.0
20 percent or more	17.4	100.0	57.3	32.2	8.0	2.5

NOTE: Details may not add to totals due to rounding. Median household income categories are in 1992-93 dollars. See glossary for definitions of specific functions. The number of pupils includes those who were enrolled on October 1.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data, "School District Fiscal Data," 1992-93. U.S. Department of Commerce, Bureau of the Census, "1990 Census School District Special Tabulations."

Table 53-1 Percentage distribution of current fund revenues of institutions of higher education per full-time-equivalent (FTE) student, by revenue source and control and type of institution: Academic years ending 1977–94

Academic year ending	Total	Tuition and fees[1]	Federal appro- priations	State and local appro- priations	Federal grants and contracts	State and local grants and contracts	Private gifts	Endow- ment	Sales and services of educational activities
				Private universities[2]					
1977	100.0	40.3	2.2	1.8	27.7	2.5	12.9	8.0	4.6
1978	100.0	40.6	2.0	1.6	27.4	2.2	13.4	7.7	5.1
1979	100.0	40.8	2.0	1.5	27.4	2.2	12.9	8.2	4.9
1980	100.0	40.1	1.9	1.4	27.8	[3]2.6	12.4	8.3	5.4
1981	100.0	40.8	1.8	1.5	27.4	[3]2.1	12.8	8.4	5.2
1982	100.0	42.5	1.7	1.4	25.6	1.9	12.7	8.7	5.3
1983	100.0	45.0	1.8	1.4	23.2	[3]2.2	12.9	7.7	5.7
1984	100.0	44.2	1.6	1.3	22.8	[3]2.2	13.4	8.4	6.1
1985	100.0	44.4	1.5	1.2	22.8	[3]2.1	13.5	8.7	5.7
1986	100.0	44.2	1.4	1.2	23.2	[3]2.2	13.6	8.6	5.7
1987	100.0	43.8	1.1	1.1	23.9	[3]2.8	13.3	8.2	5.7
1988	100.0	44.0	1.1	1.0	22.3	[3]3.6	13.5	8.5	6.0
1989	100.0	44.0	1.1	0.9	21.9	[3]3.7	13.2	8.6	6.5
1990	100.0	43.9	1.1	0.9	21.9	[3]3.7	13.4	8.6	6.4
1991	100.0	45.0	0.9	0.8	21.2	[3]3.2	13.6	8.5	6.8
1992	100.0	45.1	0.9	0.5	21.1	[3]3.4	13.5	8.1	7.4
1993	100.0	44.8	0.8	0.4	21.1	[3]3.4	14.0	8.1	7.5
1994	100.0	45.0	0.8	0.4	21.6	2.6	14.1	7.9	7.7
				Public universities[2]					
1977	100.0	16.4	2.9	52.4	17.0	2.1	4.7	0.7	3.7
1978	100.0	16.3	3.0	52.5	16.7	2.1	4.8	1.0	3.5
1979	100.0	15.9	3.0	52.1	16.9	2.3	4.7	1.0	4.0
1980	100.0	15.9	2.6	51.8	17.4	2.1	5.0	1.1	4.1
1981	100.0	16.4	2.3	51.3	17.3	2.3	5.0	1.1	4.3
1982	100.0	17.6	2.1	51.4	15.8	2.2	5.3	1.1	4.4
1983	100.0	19.0	2.0	50.3	15.0	2.1	5.9	1.2	4.5
1984	100.0	19.1	2.0	50.6	14.9	1.9	5.8	1.3	4.4
1985	100.0	18.3	2.1	51.2	14.8	2.0	5.9	1.3	4.4
1986	100.0	18.6	2.1	50.5	14.8	2.0	6.2	1.4	4.4
1987	100.0	19.5	1.9	49.3	15.0	2.4	6.4	1.0	4.5
1988	100.0	19.8	1.5	48.7	15.4	2.4	6.6	1.0	4.5
1989	100.0	20.0	1.5	47.7	15.6	2.6	7.0	1.0	4.6
1990	100.0	20.3	1.4	46.8	15.6	2.9	7.3	1.0	4.6
1991	100.0	21.1	1.4	45.6	16.0	3.0	7.2	1.1	4.8
1992	100.0	22.2	1.4	42.9	16.9	2.7	7.6	1.2	5.1
1993	100.0	23.0	1.4	41.8	17.0	2.7	7.7	1.3	5.1
1994	100.0	23.8	1.3	40.7	17.6	2.9	7.6	1.2	4.9

Table 53-1 **Percentage distribution of current fund revenues of institutions of higher education per full-time-equivalent (FTE) student, by revenue source and control and type of institution: Academic years ending 1977–94—Continued**

Academic year ending	Total	Tuition and fees[1]	Federal appro-priations	State and local appro-priations	Federal grants and contracts	State and local grants and contracts	Private gifts	Endow-ment	Sales and services of educational activities
Private 4-year colleges									
1977	100.0	61.7	0.9	2.1	10.8	2.0	15.6	5.8	1.0
1978	100.0	62.5	1.0	2.0	10.5	2.0	15.2	5.8	1.0
1979	100.0	62.2	1.0	1.9	11.0	2.0	14.7	6.2	1.0
1980	100.0	61.0	1.0	1.9	11.5	2.3	14.5	6.6	1.1
1981	100.0	61.6	1.1	1.9	10.7	2.3	14.3	6.9	1.2
1982	100.0	63.0	0.8	1.7	9.2	2.3	14.2	7.6	1.0
1983	100.0	64.6	0.6	1.7	7.7	2.4	14.4	7.5	1.0
1984	100.0	65.0	0.5	1.7	7.7	2.4	14.2	7.4	1.1
1985	100.0	64.8	0.5	1.6	7.7	2.5	14.3	7.5	1.0
1986	100.0	64.9	0.5	1.6	7.8	2.6	14.1	7.4	1.1
1987	100.0	65.2	0.6	1.6	7.4	2.9	14.1	7.2	1.1
1988	100.0	65.5	0.5	1.6	7.4	3.1	13.4	7.3	1.1
1989	100.0	66.0	0.4	1.4	7.1	3.6	13.0	7.5	1.1
1990	100.0	66.8	0.4	1.2	7.1	3.8	12.4	7.3	1.0
1991	100.0	68.1	0.4	1.1	6.8	3.5	12.0	7.1	1.0
1992	100.0	68.9	0.4	0.8	7.0	4.1	11.5	6.5	1.0
1993	100.0	69.3	0.3	0.7	7.0	3.8	11.3	6.1	1.5
1994	100.0	69.6	0.2	0.7	7.0	4.0	11.1	5.8	1.5
Public 4-year colleges									
1977	100.0	16.4	4.9	60.7	11.6	2.1	2.4	0.3	1.7
1978	100.0	16.0	4.9	61.4	10.9	2.2	2.5	0.2	1.8
1979	100.0	15.2	4.9	61.6	11.2	2.3	2.5	0.3	1.9
1980	100.0	14.9	5.0	61.5	11.3	2.2	2.6	0.3	2.1
1981	100.0	15.4	5.3	60.8	10.9	2.2	2.7	0.4	2.3
1982	100.0	16.1	4.7	61.5	9.7	2.1	2.9	0.4	2.5
1983	100.0	17.0	4.8	61.2	8.7	2.1	3.2	0.4	2.5
1984	100.0	18.2	4.7	59.8	8.5	2.3	3.3	0.4	2.7
1985	100.0	17.6	4.6	60.7	8.3	2.1	3.4	0.4	2.8
1986	100.0	17.7	4.3	60.0	8.4	2.6	3.6	0.4	3.0
1987	100.0	18.0	4.3	58.8	8.4	3.0	3.8	0.5	3.3
1988	100.0	18.4	4.3	58.4	8.3	2.9	3.7	0.5	3.5
1989	100.0	19.2	2.8	58.1	8.6	3.0	4.1	0.6	3.7
1990	100.0	19.7	4.2	55.6	8.6	3.2	4.3	0.6	3.8
1991	100.0	20.7	3.8	53.8	8.9	3.4	4.8	0.3	4.2
1992	100.0	22.4	3.6	51.3	9.4	3.7	4.9	0.6	4.1
1993	100.0	23.9	3.2	48.1	10.4	4.0	5.2	0.8	4.4
1994	100.0	24.4	3.4	46.8	10.8	4.2	5.3	0.6	4.5

Table 53-1 Percentage distribution of current fund revenues of institutions of higher education per full-time-equivalent (FTE) student, by revenue source and control and type of institution: Academic years ending 1977–94—Continued

Academic year ending	Total	Tuition and fees[1]	Federal appropriations	State and local appropriations	Federal grants and contracts	State and local grants and contracts	Private gifts	Endowment	Sales and services of educational activities
Public 2-year colleges									
1977	100.0	16.8	2.0	72.5	5.8	2.0	0.5	0.1	0.4
1978	100.0	16.1	1.8	73.3	5.5	2.3	0.5	0.1	0.4
1979	100.0	15.8	1.9	72.7	6.0	2.5	0.5	0.1	0.5
1980	100.0	16.1	1.3	72.6	6.3	2.6	0.5	0.1	0.5
1981	100.0	16.8	1.2	71.7	6.3	2.8	0.5	0.1	0.6
1982	100.0	18.0	1.1	71.7	5.2	2.9	0.5	0.1	0.5
1983	100.0	19.3	0.8	71.4	4.3	2.9	0.6	0.1	0.5
1984	100.0	19.5	0.9	71.0	4.4	2.9	0.6	0.1	0.5
1985	100.0	19.1	0.7	70.9	4.6	3.4	0.6	0.1	0.5
1986	100.0	18.6	0.6	71.4	4.5	3.7	0.6	0.1	0.6
1987	100.0	18.5	0.7	70.4	4.1	4.8	0.6	0.1	0.6
1988	100.0	18.7	0.7	70.5	4.1	4.7	0.7	0.1	0.5
1989	100.0	19.1	0.7	68.7	4.2	6.0	0.8	0.1	0.5
1990	100.0	19.6	0.7	67.7	4.2	6.3	0.9	0.1	0.5
1991	100.0	20.5	0.7	67.4	4.2	5.7	0.9	0.1	0.5
1992	100.0	22.1	0.8	65.2	4.5	5.8	1.0	0.1	0.5
1993	100.0	26.2	0.6	61.0	5.0	5.6	1.0	0.1	0.7
1994	100.0	26.4	0.6	60.4	5.2	5.6	1.0	0.1	0.8

[1] Federally supported student aid received through students (e.g., Pell grants) is included under tuition and fees.

[2] Includes doctoral-granting institutions with and without medical schools.

[3] Revised from previously published figures.

NOTE: The Higher Education Price Index (HEPI) was used to calculate constant dollars, and the Consumer Price Index (CPI) was used to forecast the HEPI to July 1996. Data for academic years 1976–77 through 1993–94 include only institutions that provided both enrollment and finance data. Details may not add to totals due to rounding. Alternative approaches to calculating adjusted costs and expenditures can be found in the following publications: Kent Halstead, *Inflation Measures for Schools, Colleges, and Libraries: 1995 Update* (Washington, D.C.: Research Associates of Washington, September 1995), and Richard Rothstein with Karen Hawley Miles, *Where's the Money Gone?* (Washington, D.C.: Economic Policy Institute, 1995).

SOURCE: U.S. Department of Education, National Center for Education Statistics, Financial Statistics of Institutions of Higher Education Survey and Integrated Postsecondary Education Data System (IPEDS), "Fall Enrollment," "Financial Statistics," and "Institutional Characteristics" surveys.

Table 53-2 **Current fund revenues of institutions of higher education per full-time-equivalent (FTE) student (in 1996 constant dollars), by revenue source and control and type of institution: Academic years ending 1977–94**

Academic year ending	Total	Tuition and fees[1]	Federal appropriations	State and local appropriations	Federal grants and contracts	State and local grants and contracts	Private gifts	Endowment	Sales and services of educational activities
					Private universities[2]				
1977	$23,021	$9,269	$505	$406	$6,382	$570	$2,981	$1,848	$1,060
1978	22,750	9,239	452	363	6,235	512	3,039	1,742	1,169
1979	22,856	9,330	451	351	6,253	512	2,959	1,871	1,128
1980	23,365	9,366	455	330	6,505	618	2,900	1,934	1,258
1981	23,534	9,602	421	357	6,455	494	3,002	1,982	1,221
1982	23,451	9,970	398	337	6,011	457	2,982	2,042	1,253
1983	23,653	10,649	426	337	5,493	510	3,055	1,832	1,351
1984	25,633	11,338	413	328	5,851	554	3,447	2,144	1,557
1985	26,432	11,735	409	327	6,026	562	3,567	2,309	1,496
1986	27,462	12,138	376	334	6,363	594	3,728	2,355	1,574
1987	29,703	13,007	341	329	7,104	824	3,948	2,447	1,705
1988	30,316	13,349	336	305	6,760	1,102	4,080	2,567	1,816
1989	31,082	13,667	347	291	6,820	1,157	4,104	2,687	2,010
1990	31,365	13,783	355	286	6,877	1,151	4,213	2,686	2,014
1991	31,691	14,250	299	253	6,722	1,004	4,312	2,686	2,166
1992	32,430	14,617	288	175	6,847	1,103	4,388	2,614	2,397
1993	33,492	15,002	266	142	7,071	1,126	4,684	2,698	2,502
1994	34,487	15,508	267	145	7,455	888	4,872	2,712	2,640
					Public universities[2]				
1977	$15,316	$2,513	$443	$8,032	$2,608	$326	$722	$109	$563
1978	15,574	2,541	468	8,181	2,595	334	755	153	546
1979	16,196	2,583	479	8,444	2,738	367	766	169	650
1980	16,067	2,552	410	8,328	2,790	345	798	181	663
1981	15,626	2,567	359	8,020	2,700	353	786	172	669
1982	15,302	2,687	325	7,872	2,416	331	819	175	678
1983	15,325	2,907	314	7,705	2,301	322	900	189	687
1984	15,828	3,028	314	8,013	2,351	300	913	210	700
1985	16,653	3,047	355	8,525	2,462	331	987	220	727
1986	17,296	3,223	355	8,728	2,559	349	1,074	245	762
1987	17,324	3,371	325	8,542	2,598	424	1,106	180	778
1988	17,798	3,532	266	8,676	2,744	435	1,177	177	793
1989	18,142	3,628	272	8,657	2,824	468	1,268	188	837
1990	18,245	3,712	255	8,544	2,840	523	1,340	191	841
1991	18,212	3,838	251	8,304	2,907	540	1,311	194	868
1992	18,027	4,001	244	7,730	3,044	492	1,364	225	927
1993	17,705	4,080	246	7,401	3,015	473	1,358	224	909
1994	17,602	4,187	232	7,161	3,092	514	1,342	216	858

Table 53-2 Current fund revenues of institutions of higher education per full-time-equivalent (FTE) student (in 1996 constant dollars), by revenue source and control and type of institution: Academic years ending 1977–94—Continued

Academic year ending	Total	Tuition and fees[1]	Federal appropriations	State and local appropriations	Federal grants and contracts	State and local grants and contracts	Private gifts	Endowment	Sales and services of educational activities
Private 4-year colleges									
1977	$11,378	$7,019	$106	$238	$1,231	$231	$1,777	$665	$111
1978	11,285	7,052	111	223	1,188	227	1,716	651	117
1979	11,413	7,096	116	215	1,256	227	1,679	704	120
1980	11,735	7,162	122	218	1,354	267	1,702	778	131
1981	11,693	7,205	126	219	1,250	266	1,677	812	138
1982	11,787	7,431	100	206	1,087	268	1,675	898	121
1983	11,994	7,754	73	207	924	282	1,732	898	123
1984	12,304	8,003	68	207	942	291	1,751	906	137
1985	12,745	8,265	69	203	975	319	1,822	959	133
1986	13,102	8,498	64	208	1,027	341	1,851	975	138
1987	13,894	9,057	77	225	1,022	404	1,954	1,006	149
1988	14,186	9,298	77	233	1,050	434	1,905	1,037	152
1989	14,389	9,497	61	195	1,025	521	1,865	1,073	152
1990	14,620	9,773	55	181	1,037	551	1,809	1,068	145
1991	14,810	10,081	55	169	1,005	521	1,781	1,056	141
1992	15,151	10,433	56	125	1,054	619	1,736	983	144
1993	15,369	10,644	41	109	1,083	583	1,737	942	230
1994	15,743	10,960	35	111	1,105	627	1,755	911	240
Public 4-year colleges									
1977	$11,505	$1,885	$565	$6,981	$1,336	$239	$273	$36	$190
1978	11,619	1,858	566	7,137	1,270	257	291	28	212
1979	11,989	1,825	590	7,391	1,341	279	297	34	233
1980	12,117	1,804	611	7,451	1,367	269	314	42	259
1981	11,891	1,825	634	7,236	1,301	264	317	47	268
1982	11,850	1,912	552	7,289	1,149	253	347	51	296
1983	11,528	1,964	550	7,058	999	248	373	47	290
1984	11,682	2,126	548	6,984	997	268	389	49	319
1985	12,415	2,186	570	7,537	1,027	266	425	50	353
1986	12,848	2,268	548	7,715	1,084	330	464	54	384
1987	12,632	2,273	546	7,423	1,058	377	476	61	419
1988	12,829	2,363	545	7,497	1,068	367	472	63	454
1989	12,664	2,431	356	7,352	1,088	380	519	70	467
1990	12,563	2,471	532	6,988	1,080	396	543	70	484
1991	12,025	2,486	460	6,474	1,073	411	575	41	505
1992	12,548	2,808	447	6,434	1,177	470	620	78	516
1993	13,429	3,212	435	6,458	1,401	539	693	101	590
1994	13,876	3,381	474	6,497	1,497	583	731	89	624

Table 53-2 Current fund revenues of institutions of higher education per full-time-equivalent (FTE) student (in 1996 constant dollars), by revenue source and control and type of institution: Academic years ending 1977–94—Continued

Academic year ending	Total	Tuition and fees[1]	Federal appropriations	State and local appropriations	Federal grants and contracts	State and local grants and contracts	Private gifts	Endowment	Sales and services of educational activities
Public 2-year colleges									
1977	$6,122	$1,029	$118	$4,440	$352	$120	$31	$4	$24
1978	6,130	987	106	4,494	339	141	30	4	24
1979	6,256	990	118	4,548	376	156	29	4	31
1980	6,169	994	80	4,476	389	161	29	5	31
1981	5,877	989	70	4,216	367	164	29	6	31
1982	5,817	1,045	61	4,171	304	167	31	7	28
1983	5,443	1,050	43	3,888	235	158	31	8	28
1984	5,581	1,089	46	3,965	244	164	33	8	28
1985	6,082	1,160	44	4,313	282	206	37	8	29
1986	6,339	1,178	38	4,523	284	231	40	9	34
1987	6,440	1,191	46	4,537	267	310	41	9	36
1988	6,281	1,176	44	4,428	255	293	45	6	32
1989	6,472	1,235	41	4,448	272	386	51	6	31
1990	6,295	1,234	40	4,262	265	398	54	7	33
1991	6,285	1,287	42	4,237	263	359	56	6	32
1992	6,115	1,351	49	3,985	277	352	59	6	32
1993	6,478	1,695	36	3,949	322	361	62	6	45
1994	6,729	1,779	37	4,067	350	374	64	6	50

[1] Federally supported student aid received through students (e.g., Pell grants) is included under tuition and fees.

[2] Includes doctoral-granting institutions with and without medical schools.

NOTE: The Higher Education Price Index (HEPI) was used to calculate constant dollars, and the Consumer Price Index (CPI) was used to forecast the HEPI to July 1996. Data for academic years 1976-77 through 1993-94 include only institutions that provided both enrollment and finance data. Details may not add to totals due to rounding. Alternative approaches to calculating adjusted costs and expenditures can be found in the following publications: Kent Halstead, *Inflation Measures for Schools, Colleges, and Libraries: 1995 Update* (Washington, D.C.: Research Associates of Washington, September 1995), and Richard Rothstein with Karen Hawley Miles, *Where's the Money Gone?* (Washington, D.C.: Economic Policy Institute, 1995).

SOURCE: U.S. Department of Education, National Center for Education Statistics, Financial Statistics of Institutions of Higher Education Survey and Integrated Postsecondary Education Data System (IPEDS), "Fall Enrollment," "Financial Statistics," and "Institutional Characteristics" surveys.

Table 54-1 Percentage distribution of educational and general expenditures of institutions of higher education per full-time-equivalent (FTE) student, by expenditure categories, and control and type of institution: Academic years ending 1977–94

Academic year ending	Total	Instruction	Administration[1]	Student services	Research	Libraries	Public service	Operation and maintenance of plant	Scholarships and fellowships	Mandatory transfers
Private universities[2]										
1977	100.0	38.0	13.2	3.3	21.1	4.2	2.2	8.8	8.1	1.1
1978	100.0	37.9	13.4	3.4	20.8	4.2	2.1	8.7	8.4	1.1
1979	100.0	37.4	14.0	3.4	20.7	3.9	2.1	9.0	8.1	1.3
1980	100.0	37.9	14.2	3.4	20.5	3.7	2.3	8.9	7.9	1.3
1981	100.0	38.1	13.9	3.5	19.8	3.7	2.1	9.1	8.2	1.5
1982	100.0	39.1	13.8	3.6	18.9	3.7	2.0	9.5	8.2	1.2
1983	100.0	39.4	14.8	3.7	17.9	3.6	2.1	9.2	8.2	1.2
1984	100.0	38.6	15.2	3.7	17.7	3.8	2.0	9.1	8.8	1.2
1985	100.0	38.0	14.9	3.8	18.1	3.5	2.4	8.9	8.9	1.4
1986	100.0	37.8	15.0	3.8	18.5	3.5	2.4	8.6	9.1	1.3
1987	100.0	38.4	15.2	3.9	18.4	3.1	2.6	7.7	9.4	1.4
1988	100.0	37.5	15.2	3.8	18.7	3.5	2.5	7.7	9.6	1.5
1989	100.0	38.0	15.2	3.7	18.4	3.4	2.5	7.5	9.7	1.6
1990	100.0	37.8	14.7	3.7	18.6	3.4	2.5	7.5	9.9	1.8
1991	100.0	38.3	14.8	3.8	17.8	3.2	2.6	7.8	10.3	1.6
1992	100.0	38.2	14.8	3.7	17.4	3.2	2.5	7.5	11.1	1.6
1993	100.0	38.4	14.1	3.5	17.9	3.2	2.7	7.3	11.4	1.7
1994	100.0	38.5	13.9	3.6	17.7	3.2	2.8	7.3	11.4	1.8
Public universities[2]										
1977	100.0	39.0	13.0	3.7	18.4	3.5	8.1	9.1	4.0	1.2
1978	100.0	39.2	13.2	3.8	18.6	3.4	7.9	9.2	3.8	1.0
1979	100.0	39.1	13.1	3.7	18.9	3.2	8.2	9.3	3.5	1.0
1980	100.0	38.8	12.5	3.8	19.5	3.7	8.1	9.2	3.5	1.0
1981	100.0	38.5	12.9	3.8	19.7	3.2	8.3	9.1	3.5	1.0
1982	100.0	38.8	13.1	3.8	19.3	3.2	8.1	9.4	3.5	0.9
1983	100.0	38.8	13.1	3.8	19.2	3.3	8.1	9.4	3.5	0.9
1984	100.0	38.6	13.1	3.7	19.1	3.3	8.0	9.4	3.6	1.0
1985	100.0	38.3	13.7	3.7	19.4	3.2	8.0	9.2	3.6	0.9
1986	100.0	37.7	13.9	3.7	19.7	3.2	8.0	8.8	3.8	1.2
1987	100.0	38.0	14.0	3.7	20.0	3.1	7.8	8.3	3.8	1.2
1988	100.0	37.3	13.9	3.7	20.6	3.2	7.8	8.1	4.0	1.4
1989	100.0	36.8	13.9	3.7	21.0	3.1	8.0	7.9	4.2	1.3
1990	100.0	36.6	13.8	3.7	21.4	3.1	8.1	7.8	4.3	1.4
1991	100.0	36.3	13.7	3.6	21.7	3.0	8.2	7.6	4.5	1.4
1992	100.0	36.0	13.3	3.7	22.0	3.0	8.3	7.4	4.9	1.5
1993	100.0	35.7	13.1	3.7	22.3	2.9	8.3	7.2	5.3	1.5
1994	100.0	35.3	13.3	3.7	22.4	2.9	8.1	7.2	5.6	1.5

Table 54-1 **Percentage distribution of educational and general expenditures of institutions of higher education per full-time-equivalent (FTE) student, by expenditure categories, and control and type of institution: Academic years ending 1977–94—Continued**

Academic year ending	Total	Instruction	Administration[1]	Student services	Research	Libraries	Public service	Operation and maintenance of plant	Scholarships and fellowships	Mandatory transfers
					Private 4-year colleges					
1977	100.0	37.3	20.4	7.4	5.0	3.9	2.4	11.2	10.0	2.3
1978	100.0	37.5	20.6	7.6	4.8	3.9	2.2	11.3	9.8	2.3
1979	100.0	37.2	20.7	7.7	5.2	3.8	2.2	11.2	9.6	2.3
1980	100.0	36.7	20.8	7.8	5.3	3.7	2.2	11.4	9.8	2.4
1981	100.0	36.1	21.1	7.9	5.1	3.6	2.3	11.5	10.1	2.3
1982	100.0	36.1	21.4	8.0	4.6	3.6	2.5	11.4	10.1	2.2
1983	100.0	36.2	21.7	8.2	4.5	3.6	2.4	11.1	10.0	2.2
1984	100.0	36.0	21.6	8.2	4.4	3.6	2.4	10.9	10.6	2.2
1985	100.0	35.6	21.7	8.3	4.6	3.5	2.4	10.6	11.1	2.3
1986	100.0	35.1	21.7	8.3	4.8	3.5	2.6	10.2	11.5	2.3
1987	100.0	34.3	22.8	8.3	4.9	2.9	2.7	9.7	12.1	2.2
1988	100.0	34.1	22.1	8.4	5.0	3.2	3.0	9.5	12.8	2.0
1989	100.0	33.8	22.2	8.5	5.0	3.1	2.9	9.4	12.9	2.2
1990	100.0	33.5	21.9	8.5	4.9	3.1	3.1	9.1	13.6	2.2
1991	100.0	33.4	22.2	8.7	4.4	2.9	3.1	8.9	14.2	2.2
1992	100.0	33.1	21.4	8.7	4.3	3.0	3.2	8.6	15.7	2.1
1993	100.0	32.8	20.7	8.7	4.4	2.9	3.5	8.5	16.5	2.1
1994	100.0	32.3	20.6	8.7	4.4	2.9	3.5	8.4	17.1	2.1
					Public 4-year colleges					
1977	100.0	46.4	16.7	5.8	7.0	3.9	2.9	11.5	3.9	2.0
1978	100.0	46.2	16.7	6.0	7.1	3.9	2.9	11.7	3.5	2.1
1979	100.0	45.6	17.1	6.2	7.5	3.8	2.9	11.6	3.2	2.0
1980	100.0	44.9	17.3	6.2	8.0	3.8	3.1	11.7	3.3	1.8
1981	100.0	44.8	17.2	6.1	7.9	3.9	3.1	11.9	3.1	1.8
1982	100.0	45.7	17.6	5.8	7.6	3.7	3.1	12.1	2.8	1.6
1983	100.0	45.7	17.4	5.9	7.5	3.7	3.1	12.1	2.9	1.7
1984	100.0	45.1	18.2	6.3	7.5	3.8	3.1	11.3	2.9	1.7
1985	100.0	44.8	18.4	6.2	7.7	3.7	3.3	11.7	2.7	1.6
1986	100.0	45.0	18.4	6.2	8.2	3.6	3.3	10.7	2.9	1.8
1987	100.0	44.7	18.7	6.1	8.6	3.2	3.6	10.4	3.1	1.6
1988	100.0	44.6	18.4	6.2	8.9	3.3	3.7	10.1	3.1	1.6
1989	100.0	44.6	18.2	6.1	9.4	3.3	3.8	9.9	3.1	1.6
1990	100.0	44.4	18.7	6.1	9.3	3.3	4.0	9.6	3.2	1.6
1991	100.0	44.3	18.6	6.2	9.5	3.1	4.0	9.4	3.3	1.5
1992	100.0	43.2	18.9	6.1	9.7	3.1	4.3	9.1	4.1	1.6
1993	100.0	42.0	19.4	6.5	9.8	3.0	4.4	8.9	4.4	1.6
1994	100.0	42.1	18.8	6.2	10.1	3.0	4.4	8.9	4.9	1.6

Table 54-1 Percentage distribution of educational and general expenditures of institutions of higher education per full-time-equivalent (FTE) student, by expenditure categories, and control and type of institution: Academic years ending 1977–94—Continued

Academic year ending	Total	Instruction	Administration[1]	Student services	Research	Libraries	Public service	Operation and maintenance of plant	Scholarships and fellowships	Mandatory transfers
					Public 2-year colleges					
1977	100.0	51.1	18.1	8.4	0.3	3.5	2.0	11.2	2.9	2.4
1978	100.0	50.6	19.4	8.2	0.2	3.5	2.1	11.3	2.2	2.4
1979	100.0	50.2	19.5	8.4	0.4	3.4	1.9	11.3	2.2	2.6
1980	100.0	50.3	19.0	8.6	0.4	3.2	2.2	11.7	2.3	2.2
1981	100.0	50.6	19.1	8.7	0.4	3.1	2.2	12.0	2.3	1.7
1982	100.0	50.9	19.0	8.8	0.2	3.4	1.9	12.3	2.1	1.5
1983	100.0	50.9	19.5	8.9	0.2	3.0	1.5	12.3	2.1	1.6
1984	100.0	50.8	19.8	8.8	0.2	3.0	1.7	12.2	2.0	1.5
1985	100.0	50.3	20.2	8.8	0.2	2.9	2.0	12.1	2.2	1.4
1986	100.0	49.9	20.7	9.0	0.1	2.9	2.0	11.9	2.2	1.4
1987	100.0	49.6	21.8	9.4	0.1	2.3	2.2	11.5	2.2	0.8
1988	100.0	49.2	21.3	9.9	0.1	2.7	2.3	11.4	2.4	0.8
1989	100.0	49.6	21.5	9.5	0.1	2.6	2.5	11.2	2.4	0.7
1990	100.0	49.8	21.5	9.7	0.1	2.5	2.4	11.0	2.3	0.7
1991	100.0	49.9	21.6	9.9	0.1	2.5	2.4	10.7	2.4	0.6
1992	100.0	50.3	20.9	10.2	0.2	2.4	2.2	10.4	2.8	0.6
1993	100.0	50.1	20.9	10.4	0.2	2.3	2.3	10.1	3.1	0.6
1994	100.0	49.4	21.0	10.4	0.2	2.3	2.4	10.3	3.4	0.7

[1] Includes institutional and academic support. Libraries were excluded.

[2] Includes doctoral granting institutions with and without medical schools.

NOTE: The Higher Education Price Index (HEPI) was used to calculate constant dollars and the Consumer Price Index (CPI) was used to forecast the HEPI to July 1996. Data for academic years 1976–77 through 1993–94 include only institutions that provided both enrollment and finance data. Details may not add to totals due to rounding. Alternative approaches to calculating adjusted costs and expenditures can be found in the following publications: Kent Halstead, *Inflation Measures for Schools, Colleges, and Libraries: 1995 Update* (Washington, D.C.: Research Associates of Washington, September 1995), and Richard Rothstein with Karen Hawley Miles, *Where's the Money Gone?* (Washington, D.C.: Economic Policy Institute, 1995).

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Digest of Educational Statistics, 1996*, tables 338–342 (based on the IPEDS/HEGIS "Fall Enrollment," "Financial Statistics," and "Institutional Characteristics" surveys).

Table 54-2 Educational and general expenditures of institutions of higher education per full-time-equivalent (FTE) student (in 1996 constant dollars), by expenditure categories, and control and type of institution: Academic years ending 1977–94

Academic year ending	Total	Instruction	Administration[1]	Student services	Research	Libraries	Public service	Operation and maintenance of plant	Scholarships and fellowships	Mandatory transfers
					Private universities[2]					
1977	$23,644	$8,990	$3,131	$788	$4,979	$983	$529	$2,072	$1,918	$254
1978	23,365	8,867	3,121	786	4,855	981	494	2,043	1,953	265
1979	23,660	8,841	3,321	814	4,901	924	496	2,129	1,918	314
1980	24,003	9,088	3,403	808	4,927	885	554	2,130	1,900	307
1981	24,268	9,251	3,381	853	4,808	894	502	2,210	1,996	372
1982	24,201	9,452	3,348	881	4,581	896	488	2,291	1,979	284
1983	24,397	9,606	3,615	907	4,359	880	504	2,245	1,995	286
1984	26,185	10,098	3,989	966	4,643	994	518	2,370	2,298	310
1985	27,276	10,367	4,071	1,029	4,948	958	662	2,432	2,434	374
1986	28,306	10,690	4,246	1,088	5,232	987	673	2,434	2,582	372
1987	30,920	11,877	4,698	1,193	5,703	944	789	2,391	2,894	430
1988	31,288	11,745	4,751	1,193	5,856	1,094	768	2,421	2,996	463
1989	31,994	12,150	4,851	1,197	5,894	1,081	799	2,402	3,115	504
1990	32,324	12,224	4,763	1,200	6,022	1,098	820	2,432	3,190	575
1991	33,318	12,759	4,922	1,251	5,925	1,061	853	2,586	3,426	535
1992	34,328	13,100	5,072	1,264	5,983	1,110	862	2,584	3,809	544
1993	35,241	13,528	4,957	1,241	6,291	1,111	944	2,580	4,005	586
1994	36,280	13,955	5,031	1,291	6,405	1,159	1,009	2,639	4,149	641
					Public universities[2]					
1977	$15,273	$5,955	$1,983	$563	$2,803	$538	$1,239	$1,392	$613	$187
1978	15,409	6,046	2,027	585	2,860	517	1,211	1,416	588	160
1979	15,969	6,238	2,092	593	3,023	515	1,303	1,481	561	162
1980	15,799	6,124	1,981	597	3,080	584	1,275	1,448	554	157
1981	15,536	5,985	2,000	586	3,055	503	1,290	1,415	548	155
1982	15,334	5,953	2,008	576	2,953	497	1,244	1,437	534	132
1983	15,300	5,941	2,005	575	2,935	503	1,237	1,439	535	131
1984	15,671	6,043	2,058	585	2,996	525	1,259	1,480	568	156
1985	16,423	6,286	2,251	608	3,190	528	1,316	1,512	587	146
1986	17,062	6,430	2,374	628	3,357	551	1,371	1,508	642	200
1987	17,374	6,601	2,436	647	3,471	534	1,361	1,444	668	211
1988	17,830	6,656	2,476	665	3,672	570	1,388	1,446	710	246
1989	18,180	6,694	2,531	679	3,809	566	1,458	1,440	763	242
1990	18,119	6,627	2,496	664	3,870	556	1,461	1,420	774	252
1991	18,444	6,688	2,525	670	4,008	551	1,506	1,400	831	265
1992	18,362	6,616	2,443	676	4,036	550	1,518	1,351	906	267
1993	18,786	6,699	2,470	693	4,194	549	1,553	1,354	992	282
1994	19,171	6,768	2,558	711	4,288	562	1,556	1,374	1,066	287

Table 54-2 Educational and general expenditures of institutions of higher education per full-time-equivalent (FTE) student (in 1996 constant dollars), by expenditure categories, and control and type of institution: Academic years ending 1977–94—Continued

Academic year ending	Total	Instruction	Administration[1]	Student services	Research	Libraries	Public service	Operation and maintenance of plant	Scholarships and fellowships	Mandatory transfers
Private 4-year colleges										
1977	$11,656	$4,353	$2,376	$865	$589	$455	$281	$1,304	$1,161	$272
1978	11,604	4,351	2,388	881	559	457	254	1,314	1,133	268
1979	11,746	4,367	2,436	906	615	450	257	1,321	1,122	273
1980	11,947	4,380	2,480	930	633	440	259	1,366	1,175	283
1981	11,989	4,323	2,533	951	606	431	277	1,383	1,207	276
1982	12,156	4,388	2,601	976	562	433	306	1,390	1,226	273
1983	12,410	4,496	2,689	1,019	553	452	299	1,383	1,245	274
1984	12,828	4,613	2,777	1,054	568	459	307	1,401	1,360	288
1985	13,304	4,736	2,883	1,102	606	468	325	1,407	1,476	301
1986	13,762	4,825	2,987	1,143	667	478	352	1,410	1,586	312
1987	14,587	5,008	3,331	1,214	711	420	394	1,421	1,761	326
1988	14,937	5,089	3,300	1,254	752	471	442	1,418	1,906	304
1989	15,097	5,102	3,348	1,278	754	471	441	1,420	1,954	328
1990	15,339	5,143	3,358	1,311	746	474	477	1,403	2,088	340
1991	15,592	5,211	3,469	1,355	690	451	478	1,385	2,218	336
1992	16,001	5,295	3,417	1,389	682	477	517	1,372	2,516	337
1993	16,134	5,292	3,340	1,397	708	465	561	1,363	2,666	341
1994	16,524	5,344	3,401	1,443	723	480	584	1,382	2,823	345
Public 4-year colleges										
1977	$11,137	$5,166	$1,854	$642	$779	$436	$321	$1,285	$434	$220
1978	11,233	5,193	1,876	672	795	434	322	1,313	391	238
1979	11,592	5,289	1,984	722	872	438	334	1,347	374	231
1980	11,721	5,259	2,024	732	936	447	359	1,372	382	211
1981	11,591	5,196	1,993	712	921	451	360	1,379	364	214
1982	11,546	5,271	2,030	673	876	432	355	1,401	325	183
1983	11,267	5,145	1,961	667	848	412	346	1,369	332	187
1984	11,384	5,138	2,075	717	858	429	354	1,290	326	199
1985	12,029	5,388	2,212	748	932	439	396	1,402	321	191
1986	12,424	5,596	2,289	773	1,013	445	405	1,325	356	222
1987	12,429	5,557	2,325	763	1,068	402	444	1,288	382	200
1988	12,671	5,650	2,335	786	1,125	424	474	1,282	390	205
1989	12,485	5,569	2,278	763	1,168	412	477	1,231	382	204
1990	12,588	5,588	2,349	763	1,168	411	503	1,206	403	197
1991	12,239	5,428	2,276	762	1,163	376	485	1,156	408	185
1992	12,409	5,360	2,345	755	1,206	382	529	1,124	504	203
1993	12,849	5,395	2,489	840	1,260	380	562	1,148	566	209
1994	13,007	5,477	2,444	806	1,311	384	575	1,164	636	210

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Table 54-2 Educational and general expenditures of institutions of higher education per full-time-equivalent (FTE) student (in 1996 constant dollars), by expenditure categories, and control and type of institution: Academic years ending 1977–94—Continued

Academic year ending	Total	Instruction	Administration[1]	Student services	Research	Libraries	Public service	Operation and maintenance of plant	Scholarships and fellowships	Mandatory transfers
					Public 2-year colleges					
1977	$6,003	$3,066	$1,087	$504	$19	$211	$120	$674	$176	$146
1978	6,034	3,054	1,171	494	11	213	128	685	133	146
1979	6,240	3,131	1,219	525	23	211	121	708	139	164
1980	6,136	3,086	1,166	530	25	196	137	720	143	132
1981	5,873	2,973	1,120	512	22	185	127	702	133	99
1982	5,874	2,989	1,116	518	12	199	112	721	121	86
1983	5,557	2,827	1,086	497	12	167	83	681	117	87
1984	5,636	2,864	1,117	495	12	168	96	688	114	82
1985	6,182	3,108	1,248	544	10	180	125	748	134	85
1986	6,364	3,176	1,317	571	6	184	126	758	140	86
1987	6,473	3,212	1,410	609	7	147	140	747	145	54
1988	6,381	3,140	1,356	633	6	173	145	726	153	48
1989	6,457	3,201	1,390	611	8	168	160	721	153	46
1990	6,277	3,125	1,347	608	9	160	152	690	142	42
1991	6,347	3,164	1,370	627	8	156	153	681	150	37
1992	6,064	3,050	1,270	619	9	147	136	628	168	36
1993	6,147	3,080	1,282	640	10	139	143	624	191	39
1994	6,462	3,189	1,359	672	10	150	152	665	221	43

[1] Includes institutional and academic support. Libraries were excluded.

[2] Includes doctoral-granting institutions with and without medical schools.

NOTE: The Higher Education Price Index (HEPI) was used to calculate constant dollars and the Consumer Price Index (CPI) was used to forecast the HEPI to July 1996. Data for academic years 1976–77 through 1993–94 include only institutions that provided both enrollment and finance data. Details may not add to totals due to rounding. Alternative approaches to calculating adjusted costs and expenditures can be found in the following publications: Kent Halstead, *Inflation Measures for Schools, Colleges, and Libraries: 1995 Update* (Washington, D.C.: Research Associates of Washington, September 1995), and Richard Rothstein with Karen Hawley Miles, *Where's the Money Gone?* (Washington, D.C.: Economic Policy Institute, 1995).

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Digest of Educational Statistics, 1996,* tables 338–342 (based on the IPEDS/HEGIS "Fall Enrollment," "Financial Statistics," and "Institutional Characteristics" surveys).

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Note to Indicator 55: International comparisons of education expenditures

The purpose of this analysis is to compare expenditures for education in public and private institutions, relative to the Gross Domestic Product (GDP) and school enrollment, across the developed countries for which data are available.

Definitions

Public education expenditures include funds provided to both public and private schools by federal, state, and local governments either directly or through students. This includes expenditures at public schools funded by public sources and subsidies to students at private schools from government agencies.

Private education expenditures are expenditures financed by private sources—households, private nonprofit institutions, businesses, and corporations. For example, this includes expenditures supported by public and private school tuition and fees, and expenses for books and materials that must be purchased by the students themselves.

Gross Domestic Product (GDP) is an aggregate measure of the value of goods and services produced in a country. GDP is Gross National Product (GNP) less net property income from abroad.

Thus, this analysis focuses on education expenditures at both public and private schools funded by both public and private sources.

Expenditures in the United States

Primary and secondary education

For the United States, *public expenditures for primary and secondary education* include expenditures in local public school districts; private schools; and schools administered by religious organizations, funded by state and local taxes; federal programs administered by the U.S. Department of Education (ED); and federal programs operated outside of ED that are not administered by state or local education agencies (e.g., Head Start, Department of Defense Schools, and schools operated by the Bureau of Indian Affairs).

Also included are federal expenditures to operate ED and other activities, such as research, statistics, assessment, and school improvement, and state expenditures to operate state departments of education and other direct state expenditures, including state schools for the deaf and blind and reform schools.

Some expenditures, such as those for federal or state agency administration and those for non-graded special education programs, cannot be assigned to particular grade levels by any obviously universally superior method. These expenditures defy strict grade-level categorizations. Like some other countries, the United States has chosen to prorate these expenditures over the grade levels based on the relative size of enrollments, staffing, and salaries. Other countries, however, have chosen not to allocate such expenditures, classifying them, instead, as "undistributed."

Higher education

Public expenditures for higher education in the United States include expenditures at both public and private colleges and universities funded by federal, state, and local governments. The Integrated Postsecondary Education Data System (IPEDS), the core postsecondary education data collection program for NCES, gathers institutional reports for revenue received by both public and private institutions from both public and private sources. Expenditures by public and private, nonprofit institutions are separated into public and private expenditures based on the share of current fund revenues from federal, state, and local sources.

Most federal aid goes to students who then spend it on education (e.g., tuition) and non-education (room and board) services. It was assumed that 60 percent of federally administered Pell grants were spent on education by students.

With the exception of Pell grant money, public expenditures for less-than-2-year public and private institutions, including "proprietary" schools, were not available; therefore, *public expenditures for higher education* in the United States are biased downward. However, since the students participating in these institutions are also excluded from higher education enrollments, the estimate of *public expenditures per student* would be biased upward if the per student public expenditures in less-than-2-year institutions were less than those in other higher education institutions.

Per student expenditures

Per student expenditures are calculated as total expenditures, funded by both public and private sources, divided by enrollment in both public and private schools. This is a measure of the average investment per student in the education system.

The data for per student expenditures in higher education come directly from tables in *Education At A Glance (EAG)*, published by the Organization for Economic Co-operation and Development in 1996. However, the EAG tables include per student expenditures broken down by early childhood, primary, secondary, and tertiary education.

For this indicator, the primary and secondary figures were recalculated to generate one expenditure figure for the primary and secondary levels combined. This was done by, first, adding the full-time-equivalent enrollment (FTE) numbers for primary and secondary education to determine total FTE. Second, total expenditures were calculated by multiplying the FTE numbers by expenditures per student, for primary and secondary education, respectively, and then adding these two figures together to determine total expenditures for primary-secondary education. Finally, total expenditures on primary and secondary education were divided by total enrollment in the primary and secondary levels to determine per student expenditures for primary-secondary education.

How students are classified

The International Standard Classification of Education (ISCED) was designed as an instrument for presenting statistics of education internationally. Many countries report education statistics to UNESCO and the Organization for Economic Cooperation and Development (OECD) using the ISCED. In this classification system, education is divided into several levels.

The following are summary definitions used in this analsysis:

- *Education preceding the first level (preprimary education)*, where it is provided, usually begins at age 3, 4, or 5 (sometimes earlier) and lasts from 1–3 years. For the United States, this would be mostly nursery schools and kindergarten classes.
- *Education at the first level (primary education)* usually begins at age 5, 6, or 7 and lasts for about 5 or 6 years. For the United States, the first level starts with grade 1 and ends with grade 6.
- *Education at the second level (lower secondary education)* begins at about age 11 or 12 and lasts for about 3 years. For the United States, the second level starts with grade 7 and ends with grade 9.
- *Education at the third level (upper secondary education)* begins at about age 14 or 15 and lasts for about 3 years. For the United States, the third level starts with grade 10 and ends with grade 12.
- *Education at the fifth level (non-university higher education)* is provided at community colleges, vocational-technical colleges, and other degree-granting institutes whose programs typically take 2 years or more, but less than 4 years, to complete.
- *Education at the sixth level (university higher education)* is provided in undergraduate programs at 4-year colleges and universities in the United States and, generally, at universities in other countries. Completion of education at the third level (upper secondary education) is usually required as a minimum condition of admission, and admission is, in many cases, competitive.
- *Education at the seventh level (graduate and professional higher education)* is provided in graduate and professional schools that generally require a university diploma as a minimum condition for admission.
- *Education at the ninth level (undistributed)* is a classification reserved for enrollments, expenditures, or programs that cannot be unambiguously assigned to one of the aforementioned levels. Some countries, for example, assign nongraded special education or recreational nondegree adult education programs to this level. Other countries assign nothing to this level, preferring instead to allocate enrollments, expenditures, and programs to levels as best they can.

How expenditures are compared across countries

To compare expenditures per student in the United States to expenditures per student in other countries, expenditures must be denominated in a common currency. Conversion of other countries' expenditures to U.S. dollars facilitates comparison with expenditures in the United States. There are at least two methods of conversion: 1) market exchange rates, and 2) Purchasing Power Parity (PPP) indices.

The market exchange rate is the rate at which an individual can exchange the currencies of two countries. It is determined by relative confidence in the governments, their monetary systems, and the economies of the two countries and by the relative demand for the goods and services that the two countries trade. Market exchange rates can be highly volatile.[1]

PPP indices are calculated by comparing the cost of a fixed market basket of goods in each country. Changes over time in a PPP index are determined by the rates of inflation in each country. Since PPP indices are not volatile, they were used here to adjust expenditures and GDP figures.[2] Because the fiscal year has a different starting month in different countries, within-country GDP consumer price deflators from the OECD National Accounts database were used to adjust education expenditures where the national financial year does not coincide with the calendar year 1993.

Problems in comparing education expenditures across countries

Comparing national expenditures on education can be difficult because the data are dependent on numerous factors, including the size of the economy, the population, and enrollment rates. In addition, the coverage and character of the education expenditure data that countries submit to the OECD vary somewhat. Sometimes an individual expenditure item may be included in the expenditure data from one country, but may not be included in those from another. Below, is a discussion of some of the problems that exist in comparing education expenditures across countries.

Size of the economy: Because GDP levels are the measure against which education expenditures are compared in this indicator, a country's wealth has a significant effect on the amount of resources that can be devoted to education.

Size of the population: The youth population, constituting those between the ages of 5 and 29, is the population that demands the investment of resources in education and training. The greater this population is, the more a country has to spend on education; the smaller this population is, the less a country has to spend on education.

Enrollment rates: Enrollment rates also affect the amount of resources a country needs to invest in education. The proportion of persons between the ages of 5 and 29 who are enrolled either full time or part time in preprimary, primary, secondary, or tertiary education varies widely across countries. For example, this proportion ranges from less than 55 percent in the Czech Republic, Greece, Mexico, and Turkey to more then 67 percent in Australia, Belgium, Canada, and New Zealand.[3]

Discrepancies in expenditure data arise because one country may collect certain kinds of data that another country either does not collect, or does not collect in its "education" data collections. Or, one country may define what constitutes an "education" expenditure differently than another country does. Discrepancies between which expenditure items are included in one country's expenditure figures and not in another's tend to arise in four general domains:

Noninstructional (ancillary) services: Some countries provide fewer ancillary services in their schools and, thus, include fewer expenditures for such services in their education expenditure figures. Examples of ancillary services are school cafeterias; dormitories; intramural school sports programs; school health clinics or visiting school nurse services; attendance (i.e., truancy) services; and speech or psychological therapy services. U.S. schools tend to subsidize relatively more ancillary services through their education budgets than do schools in most other countries. In some countries (e.g., Germany), *none* of the aforementioned services are provided at the primary and lower secondary levels by many schools.

Private expenditures: Some countries' education systems receive large private contributions. The most common forms of private contributions to education are student tuition or fees; organizational subsidies, such as those provided by religious denominations to their own schools; and corporate in-kind contributions, such as those provided by German and Austrian firms to fund vocational courses on the shop floor for participating youth apprentices. Most national education statistics collections attempt to include estimates for such expenditures. However, other private expenditures can seem more ephemeral to education data gatherers. Students' or parents' own spending on school supplies, or community organizations' charitable grants and loans to individual students, for example, can only be estimated with the help of household expenditure surveys and diligent perusal of statistical collections outside the domain of traditional educational institutions.

The boundaries of education: Fewer (though, still some) inconsistencies arise when comparing just the *instructional* expenditures for *primary* and *secondary* public education in the *academic* track. But, the "borderlands" of education, in particular, tend to cause comparability problems. These borderlands include preprimary education and day care, special education, adult education, vocational/technical education, and proprietary education. Some countries, for example, simply do not collect expenditure data for private "center-based" day care because they do not define this as "education." Indeed, in some countries, even public day care is not managed by education authorities; rather, it is the responsibility of human services departments.

The exact location of each "boundary" also varies from country to country and even within each country. In Canada, for example, vocational/ technical students in Québec choose to enter vocational/technical college in the 12th grade, while in the other Canadian provinces with vocational/technical colleges, they enter in the 13th or 14th grade. Thus, vocational/technical students in the other provinces spend another year or two at the upper secondary level. The more time the average student spends in a level of education, the greater will be the expenditures at that level.

University research: Because university spending includes substantial expenditures on research, comparing expenditures on higher education can often be misleading. The proportion of total university spending that is invested in research varies widely, specifically because of variations in the proportion of total national research and development (R & D) that is performed within the domain of higher education institutions.

In addition to variations among countries regarding the production of R & D, countries have not reported their research spending to the same extent when submitting data that were used for this analysis. For example, some countries exclude separately funded or budgeted research, while others include nearly all research outlays by institutions of higher education, when reporting higher education expenditure figures.

Even these four domains do not include all the possible comparability problems. There remain, for example, inconsistencies in how different countries treat public contributions to teacher retirement and fringe benefits, student financial aid, and hospitals.

The National Center for Education Statistics (NCES) has sponsored a study designed to examine the comparability of national figures on education expenditures. The two-volume study, entitled *International Expenditure Comparability Study*, involves 10 countries and examines in detail the content of the education expenditures data they reported to the OECD.

Thus far, participating education ministries have been receptive to the idea of improving comparability in the OECD data collection. Indeed, some countries had already modified their data submissions to the OECD for the 1991–92 school year, thus improving the comparability of education expenditures across countries for the data used for *The Condition of Education, 1996*. Further improvements were made to the data submissions to the OECD for the 1993–94 school year, the data used for this report. These changes were motivated in part by findings from the NCES expenditure comparability studies.[4]

NOTES:

[1] For a further argument against using market exchange rates, see Edith M. Rasel and Lawrence Mishel, *Short-changing Education*, Economic Policy Institute, January 1990.

[2] PPP Indices for other aggregates such as private consumption expenditures are available. See Stephen M. Barro, *International Comparisons of Education Spending: Some Conceptual and Methodological Issues*, SMB Economic Research, Inc., April 1990, for a discussion of the strengths and weaknesses of using various indices.

[3] Organization for Economic Cooperation and Development, Centre for Educational Research and Innovation, *Education At a Glance, OECD Indicators*. Author: Paris, France, 1996, p. 57.

[4] Stephen M. Barro. *Preliminary Findings from the Expenditure Comparability Study*. SMB Economic Research, Inc., June 1993.

Table 56-1 Average annual salaries (in 1996 constant dollars) of public elementary and secondary teachers: Selected school years ending 1960–96

School year ending	All teachers	Elementary teachers	Secondary teachers	Beginning teachers[1]	Bachelor's degree or higher[1,2]
1960	$26,718	$25,755	$28,222	—	—
1962	28,837	27,922	30,197	—	—
1964	30,550	29,581	31,931	—	—
1966	31,944	30,928	33,302	—	—
1968	34,306	33,312	35,549	—	$46,900
1970	35,890	34,999	36,993	—	47,430
1971	36,668	35,691	37,855	—	47,529
1972	37,067	35,995	38,313	$26,163	48,691
1973	37,353	36,322	38,576	—	48,080
1974	36,304	35,418	37,340	23,958	46,295
1975	35,326	34,394	36,415	—	44,502
1976	35,708	34,801	36,664	23,745	44,803
1977	35,760	34,783	36,890	—	45,356
1978	35,628	34,742	36,641	22,897	43,926
1979	34,490	33,684	35,449	—	41,821
1980	32,332	31,520	33,322	20,292	39,819
1981	32,013	31,261	32,917	—	38,949
1982	32,189	31,487	33,076	20,478	39,310
1983	33,139	32,389	34,094	—	39,906
1984	33,871	33,180	34,827	21,561	41,067
1985	35,069	34,475	35,942	—	42,741
1986	36,396	35,701	37,330	23,896	44,474
1987	37,541	36,818	38,495	—	44,328
1988	38,035	37,336	39,072	24,745	44,521
1989	38,340	37,638	39,188	—	46,196
1990	38,826	38,164	39,670	24,771	44,338
1991	38,830	38,132	39,783	—	43,504
1992	38,737	38,072	39,602	25,397	43,816
1993	38,628	37,865	39,566	25,303	46,649
1994	38,502	37,942	39,418	25,349	47,187
1995	38,456	37,906	39,312	25,185	45,773
1996	38,434	37,916	39,162	25,167	—

— Not available.

[1] Salaries of beginning teachers and persons with a bachelor's degree or higher are for the calendar year.

[2] Includes salaries of individuals aged 25 or older who earned income and had a bachelor's degree or higher.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Digest of Education Statistics, 1996*, table 76. U.S. Department of Commerce, Bureau of the Census, *Current Population Reports*, Series P-60. American Federation of Teachers, *Survey and Analysis of Salary Trends 1996*, December 1996, table III-2.

Table 56-2 Average compensation (in 1996 constant dollars) received by full-time public school teachers, by selected school characteristics: Summer 1993 and school year 1993–94

	School earnings*				
School characteristics	Total school earnings	Base salary	Summer supplemental earnings	Other school compensation	Non-school compensation
Total	**$38,055**	**$36,648**	**$2,250**	**$2,328**	**$5,487**
Central city	38,470	36,965	2,527	2,376	5,896
Percentage of students eligible for free or reduced-price lunch					
0–5	39,802	38,535	2,237	2,072	6,711
6–20	38,156	36,551	2,398	2,482	5,389
21–40	38,011	36,553	2,203	2,354	5,935
41 or more	38,497	37,038	2,673	2,303	5,923
School level					
Elementary	37,380	36,243	2,295	1,999	5,341
Secondary	40,358	38,235	2,687	2,807	6,363
Combined	40,441	38,092	3,918	2,563	7,530
Minority enrollment					
Less than 20 percent	37,115	35,873	1,910	2,161	5,242
20 percent or more	38,779	37,232	2,628	2,399	6,035
School size					
Less than 150	34,710	32,946	3,492	2,692	6,964
150–499	37,729	36,635	2,566	1,811	6,552
500–749	37,433	36,248	2,156	2,091	4,855
750 or more	39,435	37,596	2,625	2,650	5,995
Urban fringe/large town	42,527	41,091	2,258	2,431	5,449
Percentage of students eligible for free or reduced-price lunch					
0–5	48,329	46,558	2,210	2,814	6,684
6–20	42,670	41,108	2,247	2,520	5,478
21–40	40,578	39,209	2,093	2,184	5,219
41 or more	37,756	36,742	2,392	1,907	4,252
School level					
Elementary	41,059	40,092	1,977	1,977	4,553
Secondary	45,103	42,852	2,473	2,916	6,318
Combined	39,910	38,419	2,671	2,328	5,026
Minority enrollment					
Less than 20 percent	43,249	41,850	1,993	2,482	4,975
20 percent or more	41,578	40,104	2,442	2,374	5,778
School size					
Less than 150	36,127	34,601	2,753	2,158	6,583
150–499	42,099	41,177	2,174	1,862	4,306
500–749	41,940	40,798	1,934	2,209	4,105
750 or more	43,197	41,303	2,354	2,748	6,455

Table 56-2 Average compensation (in 1996 constant dollars) received by full-time public school teachers, by selected school characteristics: Summer 1993 and school year 1993–94—Continued

	School earnings*				
School characteristics	Total school earnings	Base salary	Summer supplemental earnings	Other school compensation	Non-school compensation
Rural/small town	34,365	33,050	1,976	2,225	5,247
Percentage of students eligible for free or reduced-price lunch					
0–5	42,433	40,770	1,776	2,629	5,758
6–20	36,758	35,213	1,982	2,326	5,422
21–40	33,881	32,521	2,053	2,299	4,827
41 or more	31,401	30,331	1,949	2,013	5,413
School level					
Elementary	33,711	32,814	1,699	1,851	4,770
Secondary	35,516	33,494	2,262	2,625	5,722
Combined	32,982	31,486	2,208	2,473	5,559
Minority enrollment					
Less than 20 percent	35,274	33,921	1,915	2,257	5,391
20 percent or more	32,353	31,078	2,101	2,226	4,944
School size					
Less than 150	29,764	28,237	2,357	2,206	5,533
150–499	33,044	31,858	1,768	2,118	5,218
500–749	35,366	34,103	1,947	2,155	5,179
750 or more	36,462	34,853	2,247	2,557	5,317
Percentage of students eligible for free or reduced-price lunch					
0–5	45,547	43,874	2,107	2,691	6,419
6–20	39,399	37,835	2,175	2,430	5,436
21–40	36,648	35,262	2,107	2,282	5,183
41 or more	35,496	34,279	2,393	2,113	5,406

* Detailed school earnings were computed using data only from teachers who reported those earnings; therefore, details do not add to total. Included in "total" and "other school compensation" are other sources of income reported after excluding outside income. Summer compensation was received in 1993. Data were calculated from the Schools and Staffing Survey Teacher Questionnaire.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey, 1993-94 (Teacher Questionnaire).

Table 57-1 Percentage of public school secondary mathematics and science students taught by teachers with selected qualifications, by percentage of students eligible for free or reduced-price lunch and class subject: School year 1993–94

Class subject	Percentage of students eligible for free or reduced-price lunch			
	0–5	6–20	21–40	41–100
		Majored in class subject		
Mathematics	73.3	71.6	65.3	60.1
Science*	83.7	82.0	82.0	73.8
Biology	74.8	66.0	70.2	57.4
Chemistry	57.5	52.7	50.2	54.6
Physics	36.3	33.0	26.2	26.7
		Majored or minored in class subject		
Mathematics	83.3	79.7	76.1	74.1
Science*	92.0	90.1	91.5	86.5
Biology	80.9	73.5	75.7	72.7
Chemistry	77.2	64.8	72.1	62.9
Physics	42.8	50.5	39.3	29.3
		Certified in class subject		
Mathematics	89.3	87.6	86.0	78.8
Science*	93.1	94.3	88.8	86.6
Biology	93.2	92.2	83.3	74.8
Chemistry	92.2	90.9	85.6	80.2
Physics	88.4	88.0	68.1	65.0

* It is easier to have majored, minored, or to have become certified in "science" than in a specific discipline, such as biology, because a teacher from any scientific field may qualify in "science," whereas qualifying in a specific discipline requires a match in class subject matter. See the supplemental note to this indicator for further discussion.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey, 1993–94 (Teacher Questionnaire).

Table 57-2 Percentage of secondary mathematics and science students taught by teachers with selected qualifications, by control of school, school size, and class subject: School year 1993–94

	Public				Private			
Class subject	Less than 150	150–499	500–749	750 or more	Less than 150	150–499	500–749	750 or more
				Majored in class subject				
Mathematics	57.7	66.3	62.0	70.5	60.8	61.8	68.0	63.4
Science*	77.1	74.6	83.5	82.0	83.4	88.4	72.7	90.0
Biology	57.0	63.5	64.1	69.2	—	80.1	—	—
Chemistry	19.9	35.2	55.6	57.9	—	27.9	—	—
Physics	—	21.3	26.3	34.7	—	33.1	—	—
				Majored or minored in class subject				
Mathematics	66.0	75.1	75.1	80.0	66.3	72.9	73.7	69.3
Science*	86.3	89.4	92.8	90.0	90.5	93.0	87.5	93.4
Biology	64.7	73.4	71.2	77.3	—	80.8	—	—
Chemistry	40.1	48.6	65.4	73.7	—	45.9	—	—
Physics	—	26.9	35.4	48.4	—	42.4	—	—
				Certified in class subject				
Mathematics	81.3	83.6	85.2	86.4	42.4	58.3	47.2	54.6
Science*	92.5	91.1	91.1	91.1	25.9	74.5	75.2	70.6
Biology	69.5	85.2	88.5	87.4	—	77.5	—	—
Chemistry	44.5	79.3	81.4	90.0	—	61.4	—	—
Physics	25.3	55.7	60.0	88.1	—	23.0	—	—

— Too few sample observations for a reliable estimate.

* It is easier to have majored, minored, or to have become certified in "science" than in a specific discipline, such as biology, because a teacher from any scientific field may qualify in "science," whereas qualifying in a specific discipline requires a match in class subject matter. See the supplemental note to this indicator for further discussion.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey, 1993–94 (Teacher Questionnaire).

Note to Indicator 57: Definition of student percentages and major/minor and certification in class subject

Definition of student percentages

Indicator 57 reports the percentages of students who were taught by full-time teachers with different qualifications. These values were calculated from Schools and Staffing Survey (SASS) information on the number of classes taught, the number of students in each class, the subject matter taught in each class, and the teachers' education and certification levels. The data collected from the teachers were weighted to properly represent national levels.

The following procedure was used to calculate the percentage of mathematics students taught by certified mathematics teachers: First, for each full-time teacher who reported teaching a mathematics class, the sum of the weighted number of students in each mathematics class taught by that teacher was used to estimate the total number of mathematics students. Next, for each full-time teacher certified to teach mathematics, the sum of the weighted number of students in each mathematics class taught by that teacher was used to estimate the number of mathematics students taught by certified teachers. Finally, the estimate of the number of mathematics students taught by certified teachers was divided by the estimate of the total number of mathematics students in order to obtain the estimated percentage of mathematics students taught by a full-time teacher certified in mathematics. The percentages reported in each of the tables in this analysis were calculated by limiting the selection to specific class subjects and school and teacher characteristics.

Classes excluded from the text table and tables 57-1 through 57-4

Computer science was excluded from the tables in this analysis because the computer science major has existed only for a limited number of years.

Matching class subject to major/minor and certification field

There are many ways to match a major/minor field of study or certification in a teaching assignment field to a class subject. One method is to include both the general or specific field and the education major/minor parallel field as a match for a specific class subject. For example, a teacher who majored or minored or who was certified in mathematics or mathematics education could be defined as having majored or minored or having become certified in the subject of mathematics. A stricter definition would exclude the mathematics teachers who majored or minored or who were certified in mathematics education. The more general definition was used for mathematics and science in all the tables in this analysis. The stricter definition was used for the specific science disciplines (biology, chemistry, and physics) in all tables.

For alternative classifications of fields see *Out-of-Field Teaching and Education Equality* (NCES 96-040).

Majored or minored in class subject

Teachers were classified as having majored or minored in a class subject if they had majored or minored in a field (shown in the right-hand column) that corresponds to the class subject listed in the left-hand column. Both undergraduate- and graduate-level degrees were considered in identifying major/minor matches to class subjects.

Class subject(s)	Major/minor field(s)
Mathematics	Mathematics, mathematics education, engineering, physics
Natural sciences	Geology/earth science, science education, other natural sciences and majors listed below
Biology/life science	Biology/life science
Chemistry	Chemistry
Physics	Physics

Certification in class subject

Certification refers to a teacher's advanced, standard, or probationary certification by a state or full certification by an accrediting body other than a state. Teachers with a temporary or emergency certification were not included as certified teachers in this analysis.

The table below shows teacher certifications classified by class subject. Teachers were classified as being certified in a class subject if they were certified in a teaching assignment field (shown in the right-hand column) that corresponds to the subject matter listed in the left-hand column. Only certifications as defined above were considered when matching subject matter.

Class subject(s)	Certification in assignment field(s)
Mathematics	Mathematics
Natural sciences	Geology/earth science, space science education, physical science, general science and all other sciences
Biology/life science	Biology/life science
Chemistry	Chemistry
Physics	Physics

Table 58-1 Change in teaching status of full-time teachers between the 1993–94 and 1994–95 school years, by control of school and age of teachers

Age of teacher	Public				Private			
	Percentage distribution	Teaching at same school	Moved to another school	Left teaching	Percentage distribution	Teaching at same school	Moved to another school	Left teaching
Total	**100.0**	**87.2**	**6.7**	**6.1**	**100.0**	**83.8**	**6.0**	**10.2**
Younger than 25	1.5	83.2	14.4	2.4	4.1	69.7	13.2	17.1
25-29	9.9	76.6	13.5	9.9	14.8	77.5	10.5	12.0
30-39	23.7	85.7	8.0	6.3	24.8	77.5	8.1	14.5
40-49	39.9	91.1	5.4	3.5	34.8	88.2	4.1	7.7
50-59	21.6	90.1	4.5	5.4	16.7	93.1	2.4	4.5
60-64	2.6	67.4	1.6	31.0	3.4	87.6	—	10.4
65 and older	0.7	64.8	—	32.4	1.4	73.6	—	24.0

— Too few sample observations for a reliable estimate.

NOTE: Details may not add to totals due to rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey, 1993-94, and the Teacher Follow-up Survey, 1994-95.

Table 58-2 Change in teaching status of full-time teachers between the 1993–94 and 1994–95 school years, destination of leavers, and reasons for leaving, by control and level of school

Teaching status, destination, and reasons for leaving	Public			Private		
	Total	Elementary	Secondary	Total	Elementary	Secondary
			Teaching status			
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Left teaching	6.1	5.8	6.4	10.2	10.3	10.1
Moved to another school	6.7	7.1	6.2	6.0	6.2	5.7
Teaching at same school	87.2	87.1	87.4	83.8	83.5	84.2
			Destination of leavers			
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Working in education	14.0	16.1	11.9	9.7	5.7	15.7
Working outside education	21.0	12.5	29.0	33.4	32.1	35.3
Attending college	2.5	2.1	2.9	9.1	12.0	4.8
Homemaking/child rearing	17.3	18.2	16.5	20.3	18.5	23.2
Retired	30.8	34.6	27.2	8.9	10.6	6.2
Disabled	1.9	0.6	3.2	0.9	—	—
Other	12.4	15.9	9.2	17.7	20.8	13.0
			Reasons for leaving			
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Family or personal move	11.4	13.2	9.8	18.9	18.1	20.1
Pregnancy/child rearing	15.6	18.5	12.9	12.1	16.4	5.6
Health	5.3	5.4	5.1	2.3	2.7	1.8
Retirement	31.0	33.4	28.7	5.7	5.9	5.3
To pursue another career	7.3	8.4	6.2	15.5	14.1	17.7
For better salary or benefits	6.1	4.4	7.8	7.1	7.6	6.2
To take courses to improve career opportunities in the field of education	3.6	3.1	4.0	6.6	7.2	5.8
To take courses to improve career opportunities outside the field of education	0.6	0.3	0.9	—	—	—
School staffing action	2.9	1.1	4.7	6.4	2.3	12.5
To take a sabbatical or other break from teaching	3.7	1.4	5.8	6.8	9.2	3.2
Dissatisfied with teaching as a career	5.3	3.0	7.4	6.4	5.7	7.5
Other family or personal reason	7.2	7.8	6.7	11.9	10.8	13.5

— Too few sample observations for a reliable estimate.

NOTE: Details may not add to totals due to rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey, 1993-94, and the Teacher Follow-up Survey, 1994-95.

Table 59-1 Average research production of full-time postsecondary faculty during the previous 2 years, by tenure status, academic rank, and control of institution: Fall 1987 and fall 1992

Tenure status, academic rank, and control of institution	Fall 1987				Fall 1992			
	Articles/ creative works	Books/ mono- graphs	Present- ations/ exhibits	Other	Articles/ creative works	Books/ mono- graphs	Present- ations/ exhibits	Other
Total	**3.2**	**0.6**	**4.3**	**1.7**	**2.9**	**0.6**	**4.4**	**1.4**
Tenure status								
Tenured	3.6	0.7	4.3	2.0	3.3	0.7	4.6	1.7
Not tenured	2.7	0.5	4.3	1.3	2.3	0.4	4.1	1.1
Academic rank								
Full professor	4.3	0.9	4.6	2.4	4.2	0.9	5.3	1.9
Associate professor	3.8	0.8	4.7	1.8	3.0	0.7	4.9	1.5
Assistant professor	2.9	0.5	4.8	1.4	2.8	0.5	4.4	1.3
Instructor/lecturer	1.2	0.2	2.8	1.1	0.9	0.2	2.2	0.6
Other/not applicable	1.2	0.1	3.4	0.7	1.2	0.2	3.4	1.0
Control of institution								
Public	3.2	0.6	4.4	1.8	2.9	0.6	4.4	1.4
Private	3.2	0.7	4.3	1.4	2.9	0.7	4.4	1.4

NOTE: See the supplemental note to *Indicator 43* for a description of research production measures.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Study of Postsecondary Faculty, 1988 and 1993.

Table 60-1 Percentage distribution of faculty's tenure status, by selected institutional and faculty characteristics: Fall 1992

Institutional and faculty characteristics	All institutions			Institutions with tenure systems	
	Tenure-track	Nontenure-track	No tenure system at institution	Tenure-track	Nontenure-track
Total	**47.6**	**45.3**	**7.1**	**51.3**	**48.7**
Level of institution					
4-year institutions	57.5	38.5	4.0	59.9	40.1
2-year institutions	28.5	58.4	13.0	32.8	67.2
Public institutions					
4-year	65.6	33.6	0.8	66.2	33.8
2-year	29.2	58.7	12.1	33.3	66.7
Private institutions					
4-year	46.1	45.4	8.5	50.4	49.6
2-year	14.8	53.7	31.5	21.6	78.4
Type of institution					
4-year institution	57.5	38.5	4.0	59.9	40.1
University	58.6	38.0	3.4	60.6	39.4
Research university	70.6	28.9	0.5	70.9	29.1
Doctoral university	60.2	39.1	0.7	60.6	39.4
Comprehensive university	53.6	44.3	2.1	54.8	45.2
Liberal arts	48.1	42.7	9.1	53.0	47.0
2-year	28.5	58.4	13.0	32.8	67.2
Other	40.8	35.4	23.9	53.6	46.4
Carnegie classification					
Research university I	69.3	30.1	0.6	69.7	30.3
Research university II	74.0	25.8	0.2	74.2	25.8
Doctoral university I	62.4	37.1	0.5	62.7	37.3
Doctoral university II	57.3	41.7	1.0	57.9	42.1
Comprehensive university I	54.5	43.7	1.8	55.5	44.5
Comprehensive university II	47.7	48.3	4.0	49.7	50.3
Liberal arts I	61.1	35.8	3.0	63.0	37.0
Liberal arts II	38.9	47.6	13.5	45.0	55.0
2-year	28.5	58.4	13.0	32.8	67.2
Other	40.8	35.4	23.9	53.6	46.4
Academic discipline					
Agriculture/home economics	71.9	24.0	4.1	75.0	25.0
Business	42.9	48.7	8.4	46.8	53.2
Education	45.8	49.8	4.4	47.9	52.1
Engineering	60.7	32.5	6.8	65.1	34.9
Fine arts	40.6	49.2	10.1	45.2	54.8
Health sciences	52.8	39.6	7.6	57.1	42.9
Humanities	43.2	49.5	7.3	46.6	53.4
Natural sciences	53.3	40.5	6.2	56.8	43.2
Social sciences	54.7	39.7	5.6	57.9	42.1
All other fields	39.0	53.0	8.1	42.4	57.6

Table 60-1 Percentage distribution of faculty's tenure status, by selected institutional and faculty characteristics: Fall 1992—Continued

Institutional and faculty characteristics	All institutions			Institutions with tenure systems	
	Tenure-track	Nontenure-track	No tenure system at institution	Tenure-track	Nontenure-track
Academic discipline by level of institution					
Agriculture/home economics, 4-year	80.1	19.0	0.9	80.8	19.2
Agriculture/home economics, 2-year	47.2	38.9	13.9	54.8	45.2
Business, 4-year	53.6	41.5	4.9	56.4	43.6
Business, 2-year	26.2	60.0	13.8	30.4	69.6
Education, 4-year	50.3	47.1	2.6	51.6	48.4
Education, 2-year	31.4	58.5	10.0	34.9	65.1
Engineering, 4-year	70.4	25.6	3.9	73.3	26.7
Engineering, 2-year	33.0	51.8	15.2	38.9	61.1
Fine arts, 4-year	47.6	42.4	10.0	52.9	47.1
Fine arts, 2-year	22.4	67.2	10.5	25.0	75.0
Health sciences, 4-year	61.0	36.3	2.7	62.7	37.3
Health sciences, 2-year	34.0	47.3	18.7	41.8	58.2
Humanities, 4-year	52.1	44.3	3.6	54.0	46.0
Humanities, 2-year	28.9	57.9	13.2	33.3	66.7
Natural sciences, 4-year	68.7	27.8	3.5	71.2	28.8
Natural sciences, 2-year	29.0	60.6	10.4	32.4	67.6
Social sciences, 4-year	63.6	33.3	3.1	65.7	34.3
Social sciences, 2-year	29.6	57.6	12.8	33.9	66.1
All other fields, 4-year	47.5	48.7	3.8	49.4	50.6
All other fields, 2-year	25.7	59.6	14.7	30.1	69.9
Employment status					
Part-time	4.2	90.6	5.2	4.5	95.5
Full-time	78.9	12.7	8.4	86.2	13.8
Sex					
Male	54.1	39.6	6.3	57.7	42.3
Female	36.7	55.0	8.4	40.0	60.0
Employment status by sex					
Part-time					
Male	5.1	89.8	5.2	5.3	94.7
Female	3.2	91.7	5.2	3.3	96.7
Full-time					
Male	83.3	9.7	7.0	89.5	10.5
Female	69.6	18.9	11.5	78.7	21.3
Age by sex					
Younger than 40 years	24.9	68.1	7.1	26.8	73.2
Male	29.2	62.7	8.1	31.8	68.2
Female	20.2	73.9	5.9	21.5	78.5
40–49 years	40.9	52.1	6.9	44.0	56.0
Male	46.1	47.5	6.3	49.2	50.8
Female	34.0	58.3	7.7	36.8	63.2
50–59 years	51.3	41.0	7.7	55.5	44.5
Male	56.8	36.2	7.0	61.1	38.9
Female	42.1	49.1	8.8	46.2	53.8
60 years or older	57.7	35.9	6.5	61.6	38.4
Male	63.7	31.2	5.1	67.1	32.9
Female	41.2	48.6	10.2	45.8	54.2

Table 60-1 Percentage distribution of faculty's tenure status, by selected institutional and faculty characteristics: Fall 1992—Continued

Institutional and faculty characteristics	All institutions: Tenure-track	All institutions: Nontenure-track	All institutions: No tenure system at institution	Institutions with tenure systems: Tenure-track	Institutions with tenure systems: Nontenure-track
Academic rank					
Professor	81.0	14.3	4.7	85.0	15.0
Associate professor	81.4	14.0	4.6	85.3	14.7
Assistant professor	70.1	24.6	5.2	74.0	26.0
Instructor	12.8	78.0	9.2	14.1	85.9
Lecturer	3.2	95.1	1.6	3.3	96.7
Other	11.4	78.6	10.0	12.7	87.3
Faculty status					
Has	54.1	38.7	7.2	58.3	41.7
Does not have	3.3	90.4	6.3	3.5	96.5
Race/ethnicity					
American Indian/Alaskan Native	38.1	51.6	10.2	42.5	57.5
Asian/Pacific Islander	60.2	36.5	3.3	62.2	37.8
Black	47.5	47.8	4.6	49.8	50.2
Hispanic	46.3	49.0	4.8	48.6	51.4
White	47.2	45.4	7.4	50.9	49.1

NOTE: Included here are faculty and staff who taught at least one course for credit in fall 1992 (a small percentage did not have faculty status). Faculty with clinical appointments were excluded.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Study of Postsecondary Faculty, 1993.

Table 60-2 Percentage of all courses at 4-year institutions taught by nontenure-track faculty, by selected institutional characteristics and academic discipline: Fall 1992

Institutional characteristics and academic discipline	Graduate courses	Undergraduate courses		
		Total	Lower division	Upper division
Total	**26.3**	**33.7**	**40.4**	**30.1**
Public institutions				
4-year	17.3	31.3	39.9	26.1
University	17.3	31.1	39.6	26.0
College	0.0	50.0	56.6	43.0
Private institutions				
4-year	40.6	37.6	41.2	37.1
University	40.6	40.1	44.7	38.9
College	*50.2	34.1	36.8	34.1
Type of institution				
Research university	20.8	29.0	36.6	26.4
Doctoral university	23.0	34.9	42.1	31.7
Comprehensive university	31.9	33.9	41.1	29.0
Liberal arts	50.2	34.8	37.9	34.5
Carnegie classification				
Research university I	21.7	31.1	35.7	30.2
Research university II	17.7	25.0	38.1	18.6
Doctoral university I	23.4	32.7	40.9	28.9
Doctoral university II	22.3	37.5	43.4	35.0
Comprehensive university I	28.6	34.2	41.4	29.4
Comprehensive university II	72.1	32.1	39.1	26.5
Liberal arts I	47.5	26.6	28.3	27.3
Liberal arts II	53.2	40.7	44.5	39.7
Other	33.3	42.5	47.3	41.1
Academic discipline				
Agriculture/home economics	4.6	18.4	24.7	15.4
Business	39.0	35.7	47.1	33.1
Education	32.9	36.9	41.2	36.7
Engineering	12.4	27.7	32.3	25.9
Fine arts	32.9	33.8	40.1	34.4
Health sciences	23.5	38.4	43.7	38.3
Humanities	16.8	40.4	50.1	28.6
Natural sciences	12.4	27.2	33.5	18.8
Social sciences	24.3	26.6	27.8	26.7
All other fields	35.3	38.4	45.4	36.4

* Institutions classified as colleges award primarily bachelor's degrees but may also award graduate degrees in a limited number of fields.

NOTE: The first column of the row for 4-year public institutions indicates that 17.3 percent of graduate-level courses offered by these schools were taught by nontenure-track faculty or staff. This table is limited to courses taught at 4-year institutions that had tenure systems. Included here are faculty and staff who taught at least one course for credit in fall 1992 (a small percentage did not have faculty status). Faculty with clinical appointments were excluded.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Study of Postsecondary Faculty, 1993.

Note to Indicator 60: Nontenure-track faculty

Faculty and instructional staff were included in these tables only if they taught at least one course for credit in fall 1992. A small number of instructional staff who lacked faculty status at sampled institutions were also included, but "faculty" is used for ease of reading. Faculty who reported having a clinical appointment were also excluded, because their tenure status is different from others' and their teaching experience is likely to differ in other fundamental ways from that of faculty as a whole. Table 60-2, which uses courses rather than faculty as the unit of analysis, excludes all courses at 2-year institutions as well as all courses at institutions lacking tenure systems.

Academic discipline

In the 10-category academic discipline typology, Health sciences includes public health and health services administration; Humanities includes history, philosophy/religion, and English as a second language; Natural science includes mathematics, statistics, and computer science; and All other fields includes a range of vocational/technical fields, professional fields (e.g., architecture and law), theology, military studies, multi/interdisciplinary studies, public affairs, and science technologies.

Carnegie classification

Definitions of the Carnegie classifications are as follows:

Research I	Offer a full range of bachelor's through doctoral programs, give high priority to research, and receive $40 million or more in federal support.
Research II	Offer a full range of bachelor's through doctoral programs, give high priority to research, and receive between $15.5 and $40 million in federal support.
Doctoral I	Offer a full range of bachelor's through doctoral programs and award at least 40 doctoral degrees annually in five or more disciplines.
Doctoral II	Offer a full range of bachelor's through doctoral programs and award at least 10 doctoral degrees in three or more disciplines, or 20 or more doctoral degrees in one or more disciplines.
Comprehensive I	Offer a full range of bachelor's through master's degree programs and award 40 or more master's degrees annually in one or more disciplines.
Comprehensive II	Offer a full range of bachelor's through master's degree programs and award 20 or more master's degrees annually in one or more disciplines.
Liberal Arts I	Offer primarily undergraduate degrees, award 40 percent or more of their bachelor's degrees in liberal arts fields, and are restrictive in admission.
Liberal Arts II	Offer primarily undergraduate degrees, award less than 40 percent of their bachelor's degrees in liberal arts fields, and are restrictive in admission.
2-year	Offer primarily associate of arts certificate or degree programs, and, with few exceptions, do not offer bachelor's degrees (this group includes community, junior, and technical colleges).
Other	Offer degrees ranging from bachelor's to doctoral, with at least 50 percent of the degrees awarded in a single discipline (including medical schools and other specialized institutions).

Standard Error Tables

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General information about standard errors

The information presented in this report was obtained from many sources, including federal and state agencies, private research organizations, and professional associations. The data were collected using many research methods, including surveys of a universe (such as all school districts) or of a sample, compilations of administrative records, and statistical projections. Users of *The Condition of Education* should take particular care when comparing data from different sources. Differences in procedures, timing, phrasing of questions, interviewer training, and so forth mean that the results are not strictly comparable. Following the general discussion of data accuracy below, descriptions of the information sources and data collection methods are presented, grouped by sponsoring organization. More extensive documentation of procedures used in one survey as compared to another does not imply more problems with the data, only that more information is available.

Unless otherwise noted, all statements cited in the text were tested for statistical significance and are statistically significant at the .05 level. Several test procedures were used. Which procedure was used depended upon the type of data being interpreted and the nature of the statement being tested. The most commonly used test procedures were: 1) *t*-tests, 2) multiple *t*-tests with a Bonferroni adjustment to the significance level, 3) linear trend tests, and 4) sign tests. When a simple comparison between two sample estimates was made, for example, between the first and last years in a time series or between males and females, a *t*-test was used. When multiple comparisons between more than two groups were made, and even if only one comparison is cited in the text, a Bonferroni adjustment to the significance level was made to ensure the significance level for the tests as a group was at the .05 level. This procedure commonly arises when making comparisons between racial/ethnic groups and between the United States and other countries. A linear trend test was used when a statement describing a trend, such as the growth of enrollment rates over time, was made or when a statement describing a relationship, such as the relationship between a parent's educational attainment and a student's reading proficiency, was made. A sign test was used when a statement describing a consistent pattern of differences over the years was made.

The accuracy of any statistic is determined by the joint effects of "sampling" and "nonsampling" errors. Estimates based on a sample will differ somewhat from the figures that would have been obtained if a complete census had been taken using the same survey instruments, instructions, and procedures. In addition to such sampling errors, all surveys, both universe and sample, are subject to design, reporting, and processing errors and errors due to nonresponse. To the extent possible, these nonsampling errors are kept to a minimum by methods built into the survey procedures; however, the effects of nonsampling errors are more difficult to gauge than those produced by sampling variability.

The estimated standard error of a statistic is a measure of the variation due to sampling and can be used to examine the precision obtained in a particular sample. The sample estimate and an estimate of its standard error permit the construction of interval estimates with prescribed confidence that the interval includes the average result of all possible samples. If all possible samples were selected, and each were surveyed under the same conditions, and an estimate and its standard error were calculated from each sample, then approximately 90 percent of the intervals from 1.6 standard errors below the estimate to 1.6 standard errors above the estimate would include the actual value; 95 percent of the intervals from two standard errors below the estimate to two standard errors above the estimate would include the actual value; and 99 percent of all intervals from 2.5 standard errors below the estimate to 2.5 standard errors above the estimate would include the actual value. These intervals are called 90 percent, 95 percent, and 99 percent confidence intervals, respectively.

To illustrate this further, consider the text table for *Indicator 1* and the standard error table S1 for estimates of standard errors from the National Household Education Survey (NHES). For the 1995 estimate of the percentage of 3-year-olds enrolled in center-based programs and kindergarten (37.4 percent), table S1 shows a standard error of 1.5. Therefore, we can construct a 95 percent confidence interval from 34.4 to 40.4 (37.4 ± 2 x 1.5). If this procedure were followed for every possible sample, about 95 percent of the intervals would include the actual percentage of 3-year-olds enrolled in center-based programs and kindergarten.

The estimated standard errors for two sample statistics can be used to estimate the precision of the difference between the two statistics and to avoid concluding that there is an actual difference when the difference in sample estimates may be due only to sampling error. The need to be aware of the precision of differences arises, for example, when comparing mean proficiency scores between groups or years in the National Assessment of Educational Progress (NAEP) or when comparing percentages between groups or years in the Current Population Survey (CPS). The standard error (se) of the difference between sample estimate A and sample estimate B (when A and B don't overlap) is:

$$se_{A-B} = \sqrt{se_A^2 + se_B^2}$$

When the ratio (called a *t*-statistic) of the difference between the two sample statistics and the standard error of the difference as calculated above is less than 2, one cannot be sure the difference is not due only to sampling error and caution should be taken in drawing any conclusions. In this report, for example, using the rationale above, we would not conclude that there is a difference between the two sample statistics. Some analysts, however, use the less restrictive criterion of 1.64, which corresponds to a 10 percent significance level.

To illustrate this further, consider the data on reading proficiency of 9-year-olds in the 2nd text table for *Indicator 15* and the associated standard error table S15(b). The estimated average reading proficiency score for the sample of black 9-year-olds in 1971 was 170. For the (new) sample in 1994, the estimated average was 185. Is there enough evidence to conclude that the actual average score for all black 9-year-olds increased 15 points between 1971 and 1994? The standard errors for these two estimates are 1.7 and 2.3, respectively. Using the above formula, the standard error of the difference is calculated as 2.9. The ratio of the estimated difference of 15 to the standard error of the difference of 2.9 is 5.2. Using the table below, we see that there is less than a 5 percent chance that the 15 point difference is due only to sampling error and one may conclude that the proficiency scores of black 9-year-olds grew between 1971 and 1994.

Percent chance that a difference is due only to sampling error:

t-statistic	1.00	1.64	1.96
Percent chance	32	10	5

It should be noted that most of the standard errors presented in this report and in the original documents are approximations. That is, to derive estimates of standard errors that would be applicable to a wide variety of items and that could be prepared at a moderate cost, a number of approximations were required. As a result, most of the standard errors presented provide a general order of magnitude rather than the exact standard error for any specific item.

The preceding discussion on sampling variability was directed toward a situation concerning one or two estimates. Determining the accuracy of statistical projections is more difficult. In general, the further away the projection date is from the date of the actual data being used for the projection, the greater the possible error in the projection. If, for instance, annual data from 1980 to 1995 are used to project enrollment in elementary and secondary education, the further beyond 1995 one projects, the more variability in the projection. The enrollment projection for the year 2002 will be less certain than the projection for 1997. A detailed discussion of the projections methodology is contained in *Projections of Education Statistics to 2006* (National Center for Education Statistics, 1996).

Both universe and sample surveys are subject to nonsampling errors. Nonsampling errors can arise in various ways including: 1) from respondents or interviewers interpreting questions differently; 2) from respondents estimating the values that they provide; 3) from partial to total nonresponse; 4) from imputation or reweighting to adjust for nonresponse; 5) from inability or unwillingness on the part of respondents to provide correct information; 6) from recording and keying errors; or 7) from overcoverage or undercoverage of the target universe.

Sampling and nonsampling error combine to yield total survey error. Since estimating the magnitude of nonsampling errors would require special experiments or access to independent data, these magnitudes are seldom available. In almost all situations, the sampling error represents an underestimate of the total survey error, and thus an overestimate of the precision of the survey estimates.

To compensate for suspected nonrandom errors, adjustments of the sample estimates are often made. For example, adjustments are frequently made for nonresponse, both partial and total. An adjustment made for either type of nonresponse is often referred to as an imputation—substitution of the "average" questionnaire response for the nonresponse. Imputations are usually made separately within various groups of sample members, which have similar survey characteristics. Imputation for item nonresponse is usually made by substituting for a missing item the response to that item of a respondent having characteristics that are similar to those of the nonrespondent.In editions prior to the 1992 edition of *The Condition of Education*, when reporting race-specific data from the CPS, Hispanics were usually included among whites and blacks (i.e., "Hispanics may be of any race"). Beginning with the 1992 edition of the report, racial/ethnic data from the CPS excludes Hispanics from whites and blacks (e.g., whites are non-Hispanic whites and blacks are non-Hispanic blacks).

Unless otherwise noted, all dollar values in this volume are expressed in 1996 constant dollars. The Consumer Price Index (CPI) is used to convert current dollars for earlier years to 1996 dollars. The CPI index for calendar year 1996 is 156.9. See table 37 in *Digest of Education Statistics, 1996* (National Center for Education Statistics, 1996) for CPI adjustments.

How to obtain standard errors for the supplemental tables

To obtain estimates of standard errors for the statistics in the supplemental tables, please complete the request card located in this edition of *The Condition of Education*.

Table S1 Standard errors for the text table in *Indicator 1*

Student characteristics	3-year-olds			4-year-olds			5-year-olds		
	1991	1993	1995	1991	1993	1995	1991	1993	1995
Total	**1.2**	**1.2**	**1.5**	**1.2**	**1.1**	**1.5**	**0.7**	**0.8**	**0.8**
Race/ethnicity									
White	1.3	1.3	2.3	1.3	1.3	2.0	0.9	1.1	1.0
Black	3.7	3.4	4.2	3.8	3.5	4.3	1.6	1.8	2.4
Hispanic	2.6	3.2	2.5	3.7	3.3	2.9	2.4	2.2	1.7
Household income									
$10,000 or less	3.3	3.9	3.8	3.9	2.8	4.0	2.2	2.6	2.8
10,001-20,000	2.6	3.4	3.7	2.8	2.9	4.1	1.9	2.3	2.6
20,001-35,000	1.8	2.0	2.8	2.5	2.3	2.8	1.9	1.6	1.5
35,001-50,000	1.9	2.7	3.4	1.9	2.9	3.0	1.3	1.7	2.1
50,001 or more	2.4	2.1	3.0	2.2	2.0	2.3	1.4	1.1	1.6
Parents' highest education level									
Less than high school diploma	2.9	4.0	3.7	3.9	4.5	5.9	2.5	4.0	2.5
High school diploma or GED	1.8	2.1	2.5	2.1	2.1	2.7	1.4	1.5	1.6
Some college/vocational/technical	2.2	2.1	2.6	2.1	2.0	2.8	1.5	1.8	1.7
Bachelor's degree	3.1	3.3	3.6	2.4	2.9	3.6	2.0	1.8	1.6
Graduate/professional school	3.4	3.2	5.0	3.5	3.1	3.1	2.3	1.3	2.9
Family structure									
Two biological or adoptive parents	—	1.4	1.8	—	1.5	1.7	—	0.9	1.0
One biological or adoptive parent	—	3.0	3.2	—	2.4	3.3	—	1.7	1.3
One biological and one step parent	—	7.0	8.8	—	6.2	6.6	—	3.9	4.7
Other relatives	—	9.5	7.3	—	10.9	10.2	—	6.5	7.8

— Not available.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey (NHES), 1991 (Early Childhood Education File), 1993 (School Readiness File), and 1995 (Early Childhood Program Participation File).

Table S2 Standard errors for the text table in *Indicator 2*

Selected characteristics	Read to three or more times in the past week		Told a story at least once in the past week		Visited a library in the past month	
	1991	1995	1991	1995	1991	1995
Total	**0.7**	**0.6**	**0.7**	**0.7**	**0.7**	**0.9**
School enrollment status and level						
Not enrolled	1.0	1.0	1.0	1.2	0.9	1.3
Center-based programs	1.3	1.0	1.2	1.1	1.2	1.1
Kindergarten	1.3	1.1	1.3	1.3	1.4	1.5
Race/ethnicity						
White	0.7	0.6	0.8	0.8	0.9	1.1
Black	2.0	1.9	2.1	2.5	1.8	2.3
Hispanic	2.8	2.0	2.1	1.7	1.8	1.7
Parents' highest education level						
Less than high school diploma	2.4	3.0	2.4	2.8	2.0	2.2
High school diploma or GED	1.4	1.3	1.5	1.3	1.2	1.7
Some college/vocational/technical	1.2	1.2	1.3	1.2	0.8	1.9
Bachelor's degree	1.4	1.3	1.9	1.7	1.9	2.1
Graduate/professional school	1.1	1.2	1.6	1.5	2.3	2.2

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey (NHES), 1991 (Early Childhood Education File) and 1995 (Early Childhood Program Participation File).

Table S3 Standard errors for the text table in *Indicator 3*

Selected characteristics	Behavioral problems		Problems with school work		Academically below the middle of the class	
	1991	1995	1991	1995	1991	1995
Total	**0.7**	**0.8**	**0.6**	**1.0**	**—**	**0.6**
Grade level						
First grade	1.1	1.1	1.0	1.0	—	0.7
Second grade	1.0	1.2	1.0	1.2	—	0.8
Race/ethnicity						
White	0.9	0.8	1.3	1.2	—	0.5
Black	2.2	2.7	2.3	2.4	—	2.4
Hispanic	2.0	1.6	2.3	2.2	—	1.3
Parents' highest education level						
Less than high school diploma	2.5	3.1	2.7	3.5	—	2.6
High school diploma or GED	1.4	1.6	1.2	1.5	—	1.2
Some college/vocational/technical	1.0	1.6	1.2	1.8	—	1.0
Bachelor's degree	1.7	1.6	1.7	2.1	—	0.9
Graduate/professional school	1.7	1.3	1.6	1.4	—	0.6

— Not available.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey (NHES), 1991 (Early Childhood Education File) and 1995 (Early Childhood Program Participation File).

Table S4 Standard errors for the text table in *Indicator 4*

English language usage and proficiency, and disability status	All children		Repeated at least one grade	
	1992	1995	1992	1995
Total 5- to 17-year-olds	**—**	**—**	**0.2**	**0.2**
Child spoke English at home	0.3	0.3	0.3	0.3
Child spoke a language other than English at home	0.3	0.3	0.6	0.6
Spanish	0.2	0.2	0.8	0.7
Other European	0.1	0.1	3.4	1.2
Asian	0.1	0.1	2.1	1.6
Other	0.1	0.1	1.9	1.7
Children who spoke a language other than English at home and:				
Had difficulty speaking English	0.2	0.2	1.0	0.9
Did not have difficulty speaking English	0.2	0.2	1.1	1.0
Had taken an ESL course	(*)	0.1	(*)	1.3
Had not taken an ESL course	(*)	0.2	(*)	0.7
Disability status				
No disabling condition	0.2	0.2	0.2	0.2
Had a disabling condition	0.2	0.2	1.2	1.2
Learning disability	0.2	0.1	1.9	2.1
Speech impediment	0.1	0.1	2.2	2.9

— Not applicable.

* Not available.

SOURCE: U.S. Department of Commerce, Bureau of the Census, October Current Population Surveys, 1992 and 1995.

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Table S5(a) Standard errors for the first text table in *Indicator 5*

	Grade 4					Grade 8					Grade 11				
Frequency	1984	1988	1990	1992	1994	1984	1988	1990	1992	1994	1984	1988	1990	1992	1994
Never	3.5	4.2	2.3	1.6	2.0	4.2	3.1	2.6	2.7	2.7	2.9	2.4	2.2	2.4	2.4
Less than once a week	1.8	2.1	1.5	2.0	1.4	3.6	2.0	1.7	2.1	2.1	2.6	2.1	2.0	2.1	2.0
Once a week	3.1	3.4	2.3	2.3	3.0	2.8	1.9	1.8	1.8	1.8	1.5	1.6	1.1	1.6	1.4
2 or 3 times a week	1.7	2.3	2.1	1.8	3.0	1.9	1.6	1.7	2.0	1.3	1.3	1.4	1.2	1.3	1.6
Every day	1.3	1.1	1.1	1.1	1.4	1.5	1.7	1.7	1.4	1.8	2.0	2.0	1.3	1.5	1.9

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Assessment of Educational Progress, *Almanac: Writing, 1984 to 1994*, 1996.

Table S5(b) Standard errors for the second text table in *Indicator 5*

	Grade 4					Grade 8					Grade 11				
Reason	1984	1988	1990	1992	1994	1984	1988	1990	1992	1994	1984	1988	1990	1992	1994
To play games	3.7	2.5	1.9	1.6	1.8	3.7	1.7	1.7	1.7	1.4	2.5	1.7	1.4	1.8	2.0
To learn things	3.1	2.6	1.6	2.0	1.8	4.5	2.3	2.3	2.1	2.0	3.0	2.2	1.7	1.9	2.2
To write stories or papers	3.7	2.5	2.5	2.3	2.6	3.5	2.6	2.3	1.9	1.7	2.2	2.1	2.0	1.9	2.0

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Assessment of Educational Progress, *Almanac: Writing, 1984 to 1994*, 1996.

Table S6 Standard errors for the text table in *Indicator 6*

		Percentage of minority enrollment		Percentage of students eligible for free or reduced-price lunch			
Selected services and equipment	Total	Less than 20 percent	20 percent or more	0-5	6-20	21-40	41 or more
Telephone	1.3	1.6	2.1	3.2	2.4	2.1	2.1
Fax machine	0.5	0.7	0.6	2.4	0.9	0.9	0.6
Computer with modem	1.0	1.4	1.4	4.3	2.1	1.9	1.7
Automated catalog	0.9	1.0	1.2	3.4	2.0	1.9	1.2
Automated circulation system	1.1	1.6	1.7	3.2	2.6	2.1	1.7
Database searching with CD-ROM	0.8	1.2	1.1	3.6	2.3	1.9	1.3
On-line database searching	0.5	0.7	0.6	2.6	1.1	0.9	0.7
Compact disc for periodical indices, etc.	1.1	1.6	1.4	3.8	2.4	2.3	1.5
Video laser disc	1.0	1.2	1.6	3.7	2.3	2.0	1.3
Connection to Internet	0.6	0.8	1.0	3.0	1.5	1.1	0.9
Cable television	0.8	1.1	1.6	3.5	1.7	1.6	1.7
Broadcast television	1.0	1.5	1.9	4.2	2.5	2.0	1.8
Closed circuit television	0.7	1.0	1.4	2.9	1.9	1.6	1.2
Satellite dish	0.6	0.9	0.9	2.3	1.5	1.4	1.4

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey (Library Media Center Questionnaire), 1993-94.

Table S7 Standard errors for the text table in *Indicator 7*

October	Total	Sex		Race/ethnicity			Family income		
		Male	Female	White	Black	Hispanic	Low	Middle	High
1972	0.2	0.3	0.3	0.2	0.9	1.5	1.1	0.3	0.3
1974	0.2	0.4	0.3	0.3	1.0	1.4	—	—	—
1976	0.2	0.3	0.3	0.3	0.8	1.1	1.1	0.3	0.2
1978	0.3	0.4	0.3	0.3	1.0	1.5	1.2	0.4	0.3
1980	0.2	0.4	0.3	0.3	0.9	1.4	1.1	0.3	0.3
1982	0.3	0.4	0.4	0.3	1.0	1.6	1.3	0.4	0.3
1984	0.3	0.4	0.4	0.3	0.9	1.7	1.2	0.4	0.3
1986	0.3	0.4	0.4	0.3	0.9	2.4	1.1	0.4	0.3
1988	0.4	0.6	0.6	0.4	1.3	4.6	1.8	0.5	0.4
1990	0.3	0.5	0.5	0.4	1.1	2.3	1.4	0.4	0.3
1991	0.3	0.5	0.5	0.4	1.2	2.2	1.4	0.4	0.3
1992	0.4	0.5	0.5	0.4	1.1	2.2	1.4	0.5	0.4
1993	0.4	0.5	0.5	0.4	1.2	2.0	1.6	0.5	0.4
1994	0.4	0.5	0.5	0.4	1.2	2.2	1.6	0.5	0.4
1995	0.4	0.5	0.5	0.4	1.2	2.4	1.5	0.5	0.4

— Not available.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Dropout Rates in the United States, 1995* (based on the October Current Population Surveys).

Table S8 Standard errors for the text table in *Indicator 8*

October	Total	Type of institution		Family income			Race/ethnicity		
		2-year	4-year	Low	Middle	High	White	Black	Hispanic
1972	1.3	—	—	3.4	1.7	2.2	1.4	4.6	9.8
1973	1.3	0.9	1.2	3.2	1.7	2.1	1.4	4.3	9.0
1975	1.3	1.0	1.2	3.6	1.7	2.1	1.4	4.7	8.5
1977	1.3	1.0	1.2	3.5	1.8	2.0	1.4	4.7	8.0
1979	1.3	1.0	1.2	3.8	1.7	2.0	1.4	4.7	7.9
1981	1.3	1.1	1.2	3.9	1.7	2.1	1.4	4.4	8.2
1983	1.4	1.1	1.3	4.0	1.9	2.2	1.6	4.4	9.0
1985	1.5	1.2	1.4	4.1	2.0	2.2	1.6	4.8	9.8
1987	1.5	1.2	1.4	3.9	2.1	2.2	1.7	4.8	8.3
1989	1.7	1.4	1.7	4.6	2.3	2.7	1.9	5.3	10.5
1990	1.6	1.3	1.6	4.8	2.1	2.5	1.8	5.1	10.8
1991	1.6	1.4	1.6	4.5	2.2	2.4	1.8	5.3	9.6
1992	1.6	1.4	1.6	4.4	2.2	2.3	1.8	4.9	8.5
1993	1.6	1.4	1.6	4.6	2.1	2.5	1.9	5.3	8.2
1994	1.5	1.3	1.6	4.3	2.1	2.4	1.7	5.2	9.5
1995	1.5	1.3	1.5	3.9	2.2	2.0	1.8	5.0	7.5

— Not available.

SOURCE: U.S. Department of Commerce, Bureau of the Census, October Current Population Surveys.

Table S9 Standard errors for the text table in *Indicator 9*

Achievement test quartile and type of institution	Senior in 1972				Senior in 1980				Senior in 1992			
		Socioeconomic status				Socioeconomic status				Socioeconomic status		
	Total	Low quartile	Middle quartiles	High quartile	Total	Low quartile	Middle quartiles	High quartile	Total	Low quartile	Middle quartiles	High quartile
Total	**0.6**	**0.9**	**0.7**	**0.7**	**0.8**	**1.3**	**1.1**	**1.1**	**0.7**	**1.5**	**0.8**	**0.7**
Achievement test quartile in high school												
First (low)	1.0	1.2	1.4	3.4	1.5	1.9	2.4	5.3	1.7	2.4	2.2	5.1
Second	1.0	1.7	1.3	2.1	1.7	2.7	2.2	3.7	1.3	2.8	1.6	2.3
Third	0.9	2.0	1.2	1.3	1.5	3.1	2.0	2.3	1.0	3.2	1.3	1.4
Fourth (high)	0.7	3.2	1.0	0.6	1.0	3.0	1.7	1.1	0.7	3.9	1.3	0.7
4-year	**0.6**	**0.7**	**0.7**	**1.0**	**0.9**	**1.1**	**1.2**	**1.7**	**0.9**	**1.0**	**0.9**	**1.4**
Achievement test quartile in high school												
First (low)	0.6	0.8	0.8	2.4	1.1	1.4	1.6	5.5	0.9	1.2	1.2	5.2
Second	0.9	1.3	1.1	2.2	1.4	2.0	1.9	4.3	1.2	1.6	1.5	3.6
Third	1.0	1.7	1.3	1.8	1.6	2.9	2.2	3.2	1.4	2.6	1.8	2.4
Fourth (high)	1.0	2.9	1.4	1.0	1.5	3.3	2.3	1.9	1.2	4.3	1.9	1.4
2-year	**0.4**	**0.6**	**0.6**	**0.8**	**0.7**	**1.0**	**1.0**	**1.3**	**0.7**	**1.3**	**0.9**	**1.1**
Achievement test quartile in high school												
First (low)	0.7	0.8	1.0	2.9	1.2	1.4	1.8	4.6	1.7	2.1	1.9	9.1
Second	0.9	1.1	1.1	2.2	1.4	2.3	1.8	3.5	1.3	2.3	1.6	3.8
Third	0.7	1.3	1.0	1.3	1.3	2.5	1.7	2.7	1.4	3.1	1.8	1.9
Fourth (high)	0.6	1.8	1.0	0.8	1.1	2.2	1.7	1.6	1.0	2.7	1.7	1.0

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Longitudinal Study of the High School Class of 1972 (NLS-72), First Follow-up (1974); High School and Beyond (HS&B) study, Senior Cohort, Third Follow-up Survey (1986); and National Education Longitudinal Study of 1988 (NELS:88), Second (1992) and Third Follow-up (1994).

Table S10 Standard errors for the text table in *Indicator 10*

October	Aged 18–24				Aged 25–34				Aged 35 or older			
	Total	White	Black	Hispanic	Total	White	Black	Hispanic	Total	White	Black	Hispanic
1972	0.5	0.5	1.7	3.3	0.3	0.3	1.1	2.0	—	—	—	—
1974	0.5	0.5	1.6	3.2	0.3	0.3	1.1	2.2	—	—	—	—
1976	0.5	0.5	1.7	3.2	0.3	0.3	1.1	2.0	0.1	0.1	0.6	1.2
1978	0.4	0.5	1.6	2.9	0.2	0.3	1.0	1.8	0.1	0.1	0.6	1.2
1980	0.4	0.5	1.5	2.8	0.2	0.3	0.9	1.6	0.1	0.1	0.5	0.9
1982	0.5	0.5	1.5	2.8	0.2	0.3	0.9	1.6	0.1	0.1	0.5	0.9
1984	0.5	0.5	1.5	2.8	0.2	0.3	0.8	1.6	0.1	0.1	0.4	0.6
1986	0.5	0.6	1.5	2.7	0.2	0.2	0.8	1.5	0.1	0.1	0.4	0.8
1988	0.6	0.6	1.7	3.3	0.2	0.3	0.8	1.5	0.1	0.1	0.4	0.9
1990	0.5	0.6	1.7	2.8	0.2	0.3	0.7	1.3	0.1	0.1	0.4	0.8
1991	0.6	0.6	1.7	2.9	0.2	0.3	0.8	1.4	0.1	0.1	0.4	0.7
1992	0.6	0.6	1.7	2.9	0.2	0.3	0.7	1.4	0.1	0.1	0.3	0.7
1993	0.6	0.6	1.7	2.8	0.2	0.3	0.8	1.4	0.1	0.1	0.4	0.7
1994	0.6	0.6	1.7	2.7	0.2	0.3	0.8	1.4	0.1	0.1	0.4	0.8
1995	0.6	0.7	1.7	2.6	0.2	0.3	0.8	1.2	0.1	0.1	0.4	0.7

— Not available.

SOURCE: U.S. Department of Commerce, Bureau of the Census, October Current Population Surveys.

Table S11 Standard errors for the text table in *Indicator 11*

Enrollment characteristics	Completed a degree				Did not complete a degree					
	Highest degree completed			Total any degree	Total no degree	Number of months enrolled				Average months enrolled
	Bachelor's	Associate's	Certificate			Less than 9 months	9–18 months	19–27 months	28 months or more	
Degree working toward in 1989–90										
Associate's degree	1.3	1.8	1.6	2.5	2.5	1.7	2.2	1.4	1.9	0.9
Certificate	0.2	1.1	2.9	2.8	2.8	2.3	2.2	1.3	0.9	0.8
Enrollment status, first term										
Full-time										
Associate's degree	2.1	2.7	1.9	3.2	3.2	1.6	2.2	2.1	2.2	1.2
Certificate	0.3	1.2	3.0	3.0	3.0	2.5	1.9	0.8	0.8	0.7
Less than full-time										
Associate's degree	1.3	3.1	2.8	3.7	3.7	3.5	3.7	2.1	3.2	1.4
Certificate	0.0	2.3	6.2	6.1	6.1	5.2	5.6	3.3	2.3	1.7
Delayed entry status										
Did not delay										
Associate's degree	2.1	2.5	2.0	3.1	3.1	1.8	2.3	1.7	2.6	1.6
Certificate	0.4	3.0	5.3	5.2	5.2	3.7	3.9	3.1	2.0	1.9
Delayed entry by at least one year										
Associate's degree	0.8	2.6	2.9	3.7	3.7	3.7	3.9	3.0	3.5	1.4
Certificate	0.2	1.1	4.0	3.9	3.9	3.4	2.8	1.4	1.2	1.2

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1990 Beginning Postsecondary Students Longitudinal Study, Second Follow-up (BPS:90/94).

Table S13(a) Standard errors for the first text table in *Indicator 13*

Control and type of first institution	Did not work	Average hours worked per week while enrolled		
		Less than 15 hours	15–33 hours	34 or more hours
Total	**0.7**	**1.0**	**1.0**	**0.8**
Public 4-year	0.6	1.4	1.4	0.8
Private, not-for-profit 4-year	0.5	1.6	1.5	0.6
Public 2-year	1.2	1.8	1.9	1.7
Private, for-profit	2.7	1.7	2.0	1.5

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1990 Beginning Postsecondary Students Longitudinal Study, Second Follow-up (BPS:90/94).

Table S13(b) Standard errors for the second text table in *Indicator 13*

Average hours worked per week while enrolled	Total	Control and type of first institution			
		Public 4-year	Private, not-for-profit 4-year	Public 2-year	Private, for-profit
Total	**1.1**	**1.4**	**1.4**	**2.0**	**2.3**
Did not work	3.2	5.8	4.7	7.0	3.8
Less than 15 hours	1.4	1.5	1.3	3.8	4.6
15–33 hours	1.6	1.8	1.9	2.9	3.8
34 or more hours	2.7	5.2	6.0	3.7	4.7

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1990 Beginning Postsecondary Students Longitudinal Study, Second Follow-up (BPS:90/94).

Table S14 Standard errors for the text table in *Indicator 14*

Worker characteristics	All workers		Full-time		Part-time	
	1991	1995	1991	1995	1991	1995
Total	**1.0**	**0.5**	**1.2**	**0.5**	**1.4**	**0.8**
Sex						
Male	1.4	0.8	1.6	0.8	1.1	1.5
Female	1.2	0.6	1.7	0.6	1.7	1.0
Age						
20–24	2.3	1.4	3.4	1.9	1.7	2.0
25–34	1.7	1.1	1.9	1.2	4.6	2.3
35–44	2.2	0.8	2.5	1.0	3.3	2.1
45–54	2.5	1.1	3.3	1.2	4.1	2.5
55–64	3.3	1.4	4.2	1.5	5.9	3.4
65 and older	4.8	2.0	8.9	3.1	3.2	2.3
Educational attainment						
High school graduate or less	1.1	0.6	1.3	0.7	2.4	1.0
Some postsecondary education	1.7	0.8	2.4	0.8	2.1	1.5
College graduate	2.3	1.0	2.4	1.0	5.0	1.9
Occupation						
Executive, professional, technical	2.0	0.9	2.1	1.0	2.5	2.5
Sales and administrative support	1.2	0.7	1.4	0.8	1.7	1.4
Service	2.2	1.3	3.0	1.7	4.4	1.5
Farming	2.8	2.5	3.1	3.0	3.7	4.4
Precision production, craft, and repair	2.6	1.5	2.8	1.6	4.8	1.2
Operators, fabricators, laborers	2.3	1.1	2.7	1.2	3.1	3.2

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey, 1991 and 1995 (Adult Education Component).

Table S15(a) Standard errors for the first text table in *Indicator 15*

	Total			Male			Female		
Year	Age 9	Age 13	Age 17	Age 9	Age 13	Age 17	Age 9	Age 13	Age 17
1971	1.0	0.9	1.2	1.1	1.0	1.2	1.0	0.9	1.3
1975	0.7	0.8	0.8	0.8	0.8	1.0	0.8	0.9	1.0
1980	1.0	0.9	1.2	1.1	1.1	1.3	1.1	0.9	1.2
1984	0.7	0.5	0.6	0.8	0.6	0.6	0.8	0.6	0.8
1988	1.1	1.0	1.0	1.4	1.3	1.5	1.3	1.0	1.5
1990	1.2	0.8	1.1	1.7	1.1	1.6	1.2	1.1	1.2
1992	0.9	1.2	1.1	1.3	1.7	1.6	0.9	1.2	1.1
1994	1.2	0.9	1.3	1.3	1.2	2.2	1.4	1.2	1.5

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Assessment of Educational Progress, *Trends in Academic Progress: Achievement of U.S. Students in Science, 1969 to 1994; Mathematics, 1973 to 1994; Reading, 1971 to 1994; Writing, 1984 to 1994*, 1996.

Table S15(b) Standard errors for the second text table in *Indicator 15*

	White			Black			Hispanic		
Year	Age 9	Age 13	Age 17	Age 9	Age 13	Age 17	Age 9	Age 13	Age 17
1971	0.9	0.7	1.0	1.7	1.2	1.7	—	—	—
1975	0.7	0.7	0.6	1.2	1.2	2.0	2.2	3.0	3.6
1980	0.8	0.7	0.9	1.8	1.5	1.8	2.3	2.0	2.7
1984	0.8	0.6	0.7	1.1	1.0	1.0	2.1	1.7	2.2
1988	1.4	1.1	1.2	2.4	2.4	2.4	3.5	3.5	4.3
1990	1.3	0.9	1.2	2.9	2.2	2.3	2.3	2.3	3.6
1992	1.0	1.2	1.4	2.2	2.3	2.1	3.1	3.5	3.7
1994	1.3	1.1	1.5	2.3	2.4	3.9	3.9	1.9	4.9

— Not available.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Assessment of Educational Progress, *Trends in Academic Progress: Achievement of U.S. Students in Science, 1969 to 1994; Mathematics, 1973 to 1994; Reading, 1971 to 1994; Writing, 1984 to 1994*, 1996.

Table S16(a) Standard errors for the first text table in *Indicator 16*

	Total			Male			Female		
Year	Grade 4	Grade 8	Grade 11	Grade 4	Grade 8	Grade 11	Grade 4	Grade 8	Grade 11
1984	1.5	2.0	1.6	2.8	2.3	1.4	3.1	2.4	2.5
1988	1.6	1.3	1.3	2.3	1.5	2.0	2.0	1.7	1.2
1990	1.5	1.2	1.0	1.9	1.5	1.6	2.2	1.3	1.5
1992	1.5	1.3	1.4	1.7	1.9	1.2	1.7	1.3	2.0
1994	1.6	1.3	1.2	1.7	1.8	1.5	2.2	1.4	1.5

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Assessment of Educational Progress, *Trends in Academic Progress: Achievement of U.S. Students in Science, 1969 to 1994; Mathematics, 1973 to 1994; Reading, 1971 to 1994; Writing, 1984 to 1994*, 1996.

Table S16(b) Standard errors for the second text table in *Indicator 16*

	White			Black			Hispanic		
Year	Grade 4	Grade 8	Grade 11	Grade 4	Grade 8	Grade 11	Grade 4	Grade 8	Grade 11
1984	1.9	2.1	1.8	5.0	5.7	3.6	5.8	6.4	6.6
1988	1.9	1.3	1.3	4.7	3.5	2.9	3.5	2.5	4.4
1990	2.0	1.6	1.2	5.4	2.3	2.3	4.1	2.8	2.6
1992	1.7	1.3	1.2	3.8	4.0	3.2	3.6	2.2	3.8
1994	1.5	1.4	1.4	3.2	3.4	2.2	3.1	3.3	4.0

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Assessment of Educational Progress, *Trends in Academic Progress: Achievement of U.S. Students in Science, 1969 to 1994; Mathematics, 1973 to 1994; Reading, 1971 to 1994; Writing, 1984 to 1994*, 1996.

Table S17(a) Standard errors for the first text table in *Indicator 17*

	Age 9					Age 13					Age 17				
Frequency	1984	1988	1990	1992	1994	1984	1988	1990	1992	1994	1984	1988	1990	1992	1994
Almost every day	1.0	1.8	1.8	1.2	1.6	1.0	2.4	1.7	2.4	1.8	0.8	1.9	2.1	1.5	2.6
1-2 times a week	0.8	1.3	1.3	1.2	1.5	1.2	2.2	1.7	1.8	2.1	1.1	2.6	2.0	1.5	1.9
1-2 times a month	0.6	0.8	0.6	0.5	0.6	0.8	1.6	1.3	1.5	1.7	0.5	2.2	1.3	1.4	1.5
Few times a year	0.3	0.6	0.6	0.4	0.6	0.5	1.3	1.1	1.1	1.2	0.5	1.1	1.4	1.2	1.5
Never/hardly ever	0.5	0.9	0.9	0.7	0.8	0.6	0.9	1.3	1.5	1.7	0.6	1.6	1.3	1.3	1.4

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Assessment of Educational Progess, *Almanac: Reading, 1984 to 1994*, and *Writing, 1984 to 1994*, 1996.

Table S17(b) Standard errors for the second text table in *Indicator 17*

	Grade 4					Grade 8					Grade 11				
Writing habit	1984	1988	1990	1992	1994	1984	1988	1990	1992	1994	1984	1988	1990	1992	1994
Keep a diary/journal	—	—	—	—	—	1.8	1.6	1.6	1.5	1.4	1.4	1.6	1.1	1.1	1.2
Write for school paper	—	—	—	—	—	1.1	1.0	1.0	1.3	0.9	0.8	0.8	0.8	0.7	1.2
Write letters to relatives	2.1	1.4	1.5	1.5	1.1	2.0	1.4	1.6	1.7	1.9	1.8	2.0	1.6	1.4	2.0
Write notes or messages	2.4	1.9	1.8	1.5	1.7	2.0	1.3	1.4	1.6	1.3	1.9	1.6	1.1	1.1	1.4
Write stories	1.8	1.7	1.4	1.4	1.2	1.0	1.3	0.9	1.1	0.9	1.1	1.3	1.2	1.3	1.3

— Not available.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Assessment of Educational Progess, *Almanac: Reading, 1984 to 1994*, and *Writing, 1984 to 1994*, 1996.

Table S18(a) Standard errors for the first text table in *Indicator 18*

	Total			Male			Female		
Year	Age 9	Age 13	Age 17	Age 9	Age 13	Age 17	Age 9	Age 13	Age 17
1973	0.8	0.8	1.1	0.7	1.3	1.2	1.1	1.1	1.1
1978	0.8	1.1	1.0	0.7	1.3	1.0	1.0	1.1	1.0
1982	1.1	1.1	0.9	1.2	1.4	1.0	1.2	1.1	1.0
1986	1.0	1.2	0.9	1.1	1.1	1.2	1.2	1.5	1.0
1990	0.8	0.9	0.9	0.9	1.2	1.1	1.1	0.9	1.1
1992	0.8	0.9	0.9	1.0	1.1	1.1	1.0	1.0	1.1
1994	0.8	1.0	1.0	1.0	1.3	1.4	0.9	1.0	1.1

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Assessment of Educational Progress, *Trends in Academic Progress: Achievement of U.S. Students in Science, 1969 to 1994; Mathematics, 1973 to 1994; Reading, 1971 to 1994; Writing, 1984 to 1994*, 1996.

Table S18(b) Standard errors for the second text table in *Indicator 18*

	White			Black			Hispanic		
Year	Age 9	Age 13	Age 17	Age 9	Age 13	Age 17	Age 9	Age 13	Age 17
1973	1.0	0.9	1.1	1.8	1.9	1.3	2.4	2.2	2.2
1978	0.9	0.8	0.9	1.1	1.9	1.3	2.2	2.0	2.3
1982	1.1	1.0	0.9	1.6	1.6	1.2	1.3	1.7	1.8
1986	1.1	1.3	1.0	1.6	2.3	2.1	2.1	2.9	2.9
1990	0.8	1.1	1.0	2.2	2.3	2.8	2.1	1.8	2.9
1992	0.8	0.9	0.8	2.0	1.9	2.2	2.3	1.8	2.6
1994	1.0	0.9	1.1	1.6	3.5	1.8	2.3	1.9	3.7

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Assessment of Educational Progress, *Trends in Academic Progress: Achievement of U.S. Students in Science, 1969 to 1994; Mathematics, 1973 to 1994; Reading, 1971 to 1994; Writing, 1984 to 1994*, 1996.

Table S19(a) Standard errors for the first text table in *Indicator 19*

Year	Total			Male			Female		
	Age 9	Age 13	Age 17	Age 9	Age 13	Age 17	Age 9	Age 13	Age 17
1970	1.2	1.1	1.0	1.3	1.3	1.2	1.2	1.2	1.1
1973	1.2	1.1	1.0	1.3	1.3	1.2	1.2	1.2	1.1
1977	1.2	1.1	1.0	1.3	1.3	1.2	1.2	1.2	1.1
1982	1.8	1.3	1.2	2.3	1.5	1.4	2.0	1.3	1.3
1986	1.2	1.4	1.4	1.4	1.6	1.9	1.4	1.5	1.5
1990	0.8	0.9	1.1	1.1	1.1	1.3	1.0	1.1	1.6
1992	1.0	0.8	1.3	1.2	1.2	1.7	1.0	1.0	1.5
1994	1.2	1.0	1.6	1.3	1.2	2.0	1.4	1.2	1.7

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Assessment of Educational Progress, *Trends in U.S. Progress: Achievement of American Students in Science, 1969 to 1994; Mathematics, 1973 to 1994; Reading, 1971 to 1994; Writing, 1984 to 1994*, 1996.

Table S19(b) Standard errors for the second text table in *Indicator 19*

Year	White			Black			Hispanic		
	Age 9	Age 13	Age 17	Age 9	Age 13	Age 17	Age 9	Age 13	Age 17
1970	0.9	0.8	0.8	1.9	2.4	1.5	—	—	—
1973	0.9	0.8	0.8	1.9	2.4	1.5	—	—	—
1977	0.9	0.8	0.7	1.8	2.4	1.5	2.7	1.9	2.2
1982	1.9	1.1	1.0	3.0	1.3	1.7	4.2	3.9	2.3
1986	1.2	1.4	1.7	1.9	2.5	2.9	3.1	3.1	3.8
1990	0.8	0.9	1.1	2.0	3.1	4.5	2.2	2.6	4.4
1992	1.0	1.0	1.3	2.7	2.7	3.2	2.8	2.6	5.6
1994	1.3	1.0	1.5	1.7	4.2	3.1	2.7	2.4	6.7

—Not available.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Assessment of Educational Progress, *Trends in U.S. Progress: Achievement of American Students in Science, 1969 to 1994; Mathematics, 1973 to 1994; Reading, 1971 to 1994; Writing, 1984 to 1994*, 1996.

Table S20(a) Standard errors for the first text table in *Indicator 20*

G-7 country	Average score			Percentile distribution				
	Total	Boys	Girls	5th	25th	50th	75th	95th
Japan	1.9	2.6	2.1	2.1	6.8	2.5	1.4	4.8
France	2.9	3.1	3.8	5.2	1.4	3.0	2.5	3.4
Canada	2.4	3.2	2.7	3.3	2.0	2.7	2.4	3.7
Germany	4.5	5.1	5.0	8.2	9.4	6.3	7.5	10.9
England	2.6	5.1	3.5	8.8	4.8	3.5	2.7	4.1
United States	4.6	5.2	4.5	3.3	3.4	6.4	8.2	3.7

SOURCE: International Association for the Evaluation of Educational Achievement, TIMSS International Study Center, *Mathematics Achievement in the Middle School Years, Science Achievement in the Middle School Years, IEA's Third International Mathematics and Science Study*, 1996.

Table S20(b) Standard errors for the second text table in *Indicator 20*

G-7 country	Average score			Percentile distribution				
	Total	Boys	Girls	5th	25th	50th	75th	95th
Japan	1.6	2.4	2.0	0.5	4.3	1.5	1.8	1.7
England	3.3	5.6	4.2	2.0	5.2	5.9	4.7	6.7
United States	4.7	4.9	5.2	6.3	7.7	6.5	5.4	8.6
Canada	2.6	3.1	3.7	3.7	4.2	4.0	3.0	3.8
Germany	4.8	5.9	4.9	9.3	6.6	8.5	4.2	5.5
France	2.5	2.7	3.3	3.9	4.6	3.9	3.1	4.6

SOURCE: International Association for the Evaluation of Educational Achievement, TIMSS International Study Center, *Mathematics Achievement in the Middle School Years, Science Achievement in the Middle School Years, IEA's Third International Mathematics and Science Study*, 1996.

Table S22 Standard errors for the text table in *Indicator* 22

March	High school graduates				High school graduates completing:							
					1 or more years of college				4 or more years of college			
	Total	White	Black	Hispanic	Total	White	Black	Hispanic	Total	White	Black	Hispanic
1971	0.5	0.5	2.2	2.9	0.7	0.7	2.6	3.8	0.6	0.6	1.8	2.5
1973	0.5	0.5	2.0	2.6	0.6	0.7	2.5	3.3	0.5	0.6	1.8	2.2
1975	0.4	0.4	1.8	2.5	0.6	0.7	2.3	3.3	0.5	0.6	1.7	2.5
1977	0.4	0.4	1.7	2.5	0.6	0.6	2.2	3.3	0.5	0.6	1.7	2.1
1979	0.4	0.4	1.6	2.3	0.6	0.6	2.1	3.1	0.5	0.6	1.6	2.1
1981	0.4	0.3	1.5	2.1	0.6	0.6	2.0	2.7	0.5	0.5	1.4	1.8
1983	0.4	0.4	1.4	2.2	0.6	0.6	2.0	2.8	0.5	0.6	1.5	2.2
1985	0.4	0.4	1.4	2.1	0.6	0.6	1.9	2.8	0.5	0.6	1.4	2.1
1987	0.4	0.4	1.3	2.0	0.6	0.6	1.9	2.6	0.5	0.6	1.3	1.9
1989	0.4	0.4	1.4	2.2	0.6	0.7	2.0	2.9	0.5	0.6	1.5	2.2
1991	0.4	0.4	1.4	2.0	0.6	0.7	2.0	2.6	0.5	0.6	1.3	2.0
	Diploma or equivalency certificate				**Some college**				**Bachelor's degree or higher**			
1992	0.4	0.4	1.4	2.0	0.6	0.7	2.0	2.6	0.5	0.6	1.4	1.9
1993	0.4	0.4	1.4	1.9	0.6	0.7	2.0	2.5	0.5	0.6	1.5	1.7
1994	0.4	0.4	1.3	1.8	0.6	0.7	2.0	2.4	0.5	0.7	1.5	1.6
1995	0.4	0.4	1.2	1.8	0.6	0.7	2.0	2.4	0.6	0.7	1.5	1.8
1996	0.4	0.4	1.3	1.8	0.6	0.7	2.0	2.3	0.6	0.7	1.5	1.7

SOURCE: U.S. Department of Commerce, Bureau of the Census, March Current Population Surveys.

Table S24 Standard errors for the text table in *Indicator* 24

Mathematics and science courses	Total				Male				Female			
	1982	1987	1990	1994	1982	1987	1990	1994	1982	1987	1990	1994
Mathematics												
Algebra I	0.9	1.0	1.6	1.4	1.0	1.2	1.7	1.4	1.2	1.1	1.8	1.4
Geometry	0.8	1.0	1.3	1.4	0.8	1.2	1.6	1.5	1.2	1.0	1.3	1.4
Algebra II	0.9	1.2	1.1	1.3	1.1	1.4	1.3	1.3	1.0	1.2	1.1	1.4
Trigonometry	0.6	1.5	1.3	1.3	1.0	1.8	1.4	1.4	0.5	1.4	1.3	1.4
Analysis/pre-calculus	0.4	0.9	1.0	0.8	0.5	1.0	1.1	0.8	0.6	0.8	0.9	0.9
Calculus	0.4	0.4	0.5	0.5	0.5	0.5	0.6	0.6	0.4	0.4	0.4	0.6
Science												
Biology	0.8	1.0	1.0	1.0	1.0	1.2	1.1	1.1	1.1	0.8	0.9	0.9
Chemistry	0.8	1.1	1.2	1.0	1.1	1.3	1.4	1.0	0.7	1.2	1.3	1.2
Physics	0.5	0.9	0.8	0.8	1.0	1.0	0.9	1.0	0.4	0.9	0.8	0.9
Biology and chemistry	0.8	1.1	1.3	1.2	1.2	1.3	1.4	1.2	0.6	1.2	1.3	1.4
Biology, chemistry, and physics	0.5	0.7	0.7	0.8	0.8	0.8	0.8	0.8	0.4	0.7	0.8	0.9

SOURCE: U.S. Department of Education, National Center for Education Statistics, *The 1994 High School Transcript Study Tabulations: Comparative Data on Credits Earned and Demographics for 1994, 1990, 1987, and 1982 High School Graduates*, 1996.

Table S26(a) Standard errors for the first text table in *Indicator 26*

			1995					
			Public		Private		Minority enrollment	
Subject	Fall 1989	Total	2-year	4-year	2-year	4-year	High	Low
Reading, writing, or mathematics	1.4	0.8	1.4	1.2	5.4	1.6	2.0	0.8
Reading	0.7	0.5	1.0	0.8	2.5	1.2	1.7	0.6
Writing	0.8	0.6	1.0	0.9	5.3	1.3	1.7	0.6
Mathematics	1.0	0.8	1.3	1.1	4.8	1.4	2.0	0.8

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Remedial Education at Higher Education Institutions in Fall 1995.*

Table S26(b) Standard errors for the second text table in *Indicator 26*

			1995					
			Public		Private		Minority enrollment	
Subject	Fall 1989	Total	2-year	4-year	2-year	4-year	High	Low
Reading, writing, or mathematics	2.1	1.7	—	2.6	6.8	3.9	2.0	1.9
Reading	2.3	1.6	0.7	3.1	5.5	2.7	3.1	1.7
Writing	2.2	1.6	0.5	2.7	6.8	4.2	3.4	1.8
Mathematics	2.2	1.6	0.5	2.7	7.0	3.5	2.1	1.7

— Not applicable.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Remedial Education at Higher Education Institutions in Fall 1995.*

Table S29 Standard errors for the text table in *Indicator 29*

	Recent high school graduates not enrolled in college				Recent school dropouts			
October	Total	White	Black	Hispanic	Total	White	Black	Hispanic
1972	1.7	1.7	5.4	—	2.7	3.2	6.1	—
1974	1.6	1.7	5.5	—	2.6	3.1	5.4	—
1976	1.7	1.7	5.5	—	2.6	3.1	5.2	—
1978	1.6	1.6	5.3	7.0	2.6	3.1	4.8	—
1980	1.7	1.7	4.9	—	2.7	3.3	5.2	7.2
1982	1.9	2.0	4.5	7.1	2.9	3.7	5.1	—
1984	2.0	2.2	4.7	7.0	3.1	3.9	6.6	7.5
1986	2.0	2.2	4.9	7.7	3.2	4.3	8.1	7.0
1988	2.2	2.4	5.8	10.4	3.5	4.4	6.5	9.2
1989	2.4	2.5	6.8	10.6	3.9	5.1	7.0	—
1990	2.4	2.6	6.0	—	3.9	5.0	8.2	—
1991	2.6	3.0	5.8	—	3.9	5.2	7.2	—
1992	2.5	2.8	5.7	8.6	3.8	5.0	—	8.1
1993	2.5	2.8	6.8	9.2	3.9	5.0	8.1	—
1994	2.4	2.7	6.3	9.0	3.5	4.7	7.7	7.5
1995	2.4	2.8	6.2	7.3	3.2	4.4	7.5	6.5

— Not available

SOURCE: U.S. Department of Commerce, Bureau of the Census, October Current Population Surveys.

Table S30 Standard errors for the text table in *Indicator 30*

Student characteristics	Average months employed	Average months unemployed	Average months not in labor force	Average earnings	Average hours worked per week	Average number of jobs	Percentage continuously employed
				1982 Graduates			
Total	**0.1**	**0.1**	**0.1**	**$287**	**0.3**	***0.0**	**1.2**
Employed during high school							
Yes	0.1	0.1	0.1	330	0.4	*0.0	1.3
No	0.3	0.2	0.3	559	0.9	0.1	2.7
Hours worked during high school							
Less than 22	0.2	0.1	0.2	501	0.5	*0.0	1.9
22-29	0.3	0.1	0.3	520	0.9	0.1	3.7
30-40	0.3	0.1	0.3	509	0.8	0.1	3.0
More than 40	0.4	0.2	0.4	1,220	1.5	0.1	4.9
High school GPA							
Less than 1.75	0.3	0.2	0.3	671	0.8	0.1	2.9
1.75-2.74	0.2	0.1	0.1	396	0.5	*0.0	1.6
2.75-3.74	0.2	0.1	0.2	423	0.7	0.1	2.5
3.75 or more	—	—	—	—	—	—	—
				1992 Graduates			
Total	**0.2**	**0.1**	**0.1**	**$284**	**0.5**	***0.0**	**2.0**
Employed during high school							
Yes	0.2	0.2	0.2	360	0.8	0.1	2.7
No	0.2	0.1	0.2	500	0.6	*0.0	3.0
Hours worked during high school							
Less than 21	0.3	0.3	0.2	514	1.0	*0.0	3.2
21-30	0.4	0.3	0.4	779	1.2	0.1	5.9
31-40	0.7	0.2	0.7	630	2.6	0.2	8.7
More than 40	0.3	0.3	0.3	1,289	2.5	0.1	7.2
High school GPA							
Less than 1.75	0.4	0.4	0.2	753	1.5	0.1	4.6
1.75-2.74	0.2	0.1	0.2	351	0.5	*0.0	2.3
2.75-3.74	0.4	0.1	0.3	481	1.2	0.1	4.9
3.75 or more	—	—	—	—	—	—	—

— Not available.

* Standard errors less than 0.05 are rounded to 0.0.

SOURCE: U.S. Department of Education, National Center for Education Statistics, High School and Beyond (HS&B) study, Sophomore Cohort, Fourth Follow-up Survey, and National Education Longitudinal Study of 1988, First, Second, and Third Follow-up Surveys.

Table S31 Standard errors for the text table in *Indicator 31*

Selected characteristics	Employment and enrollment status: Employed full time, not enrolled	Employed part time, not enrolled	In labor force, enrolled	Not in labor force, enrolled	Not employed, not enrolled	Relatedness of job to education: Job related to field of study	Job required college degree	Job had career potential
Total	**0.7**	**0.4**	**0.4**	**0.3**	**0.3**	**0.7**	**0.9**	**0.8**
Field of study								
Business and management	1.3	0.8	0.9	0.4	0.6	1.3	2.0	1.5
Education	1.7	1.4	1.1	0.7	0.7	1.7	1.8	1.6
Engineering	2.2	0.9	1.5	1.0	1.3	1.5	2.1	1.7
Health professions	2.1	1.0	1.7	0.8	1.1	1.2	2.6	1.9
Public affairs/social services	2.8	1.8	1.8	1.6	1.6	3.5	4.0	3.4
Biological sciences	2.8	1.1	2.1	2.1	2.1	3.6	4.0	3.7
Mathematics and science	2.5	1.9	1.5	1.5	1.3	2.1	3.0	2.3
Social sciences	1.7	0.8	1.3	0.8	0.9	2.2	2.7	2.0
History	4.2	2.5	3.5	1.7	1.3	6.2	6.3	6.7
Humanities	2.0	1.4	1.3	0.8	1.3	2.7	2.7	2.6
Psychology	3.2	1.4	2.7	1.8	2.3	4.1	4.1	4.2
Other	1.6	1.0	1.0	0.5	0.8	1.8	2.4	2.7
Sex								
Male	1.0	0.5	0.6	0.5	0.5	1.1	1.3	1.1
Female	0.9	0.5	0.6	0.3	0.4	0.9	1.1	1.0
College grade point average								
Less than 3.0	1.1	0.7	0.7	0.3	0.6	1.3	1.5	1.3
3.0 to 3.49	0.9	0.6	0.6	0.4	0.5	1.0	1.3	1.4
3.5 and higher	1.2	0.7	0.8	0.7	0.6	1.3	1.8	1.3

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1993 Baccalaureate and Beyond Longitudinal Study, First Follow-up (B&B:93/94).

Table S32 Standard errors for the text table in *Indicator 32*

March	Male: Grades 9–11	Male: High school diploma	Male: Some college	Male: Bachelor's degree or higher	Female: Grades 9–11	Female: High school diploma	Female: Some college	Female: Bachelor's degree or higher
1971	1.1	0.5	1.0	0.8	1.4	0.9	1.6	1.7
1973	1.1	0.5	0.9	0.7	1.5	0.8	1.6	1.5
1975	1.5	0.6	0.9	0.6	1.4	0.8	1.4	1.3
1977	1.4	0.6	0.8	0.5	1.5	0.8	1.3	1.1
1979	1.5	0.5	0.7	0.5	1.6	0.8	1.1	1.1
1981	1.5	0.6	0.7	0.5	1.6	0.8	1.0	1.0
1983	1.7	0.7	0.9	0.6	1.6	0.8	1.1	0.9
1985	1.5	0.6	0.7	0.6	1.7	0.8	1.0	0.9
1987	1.4	0.6	0.7	0.6	1.7	0.7	1.0	0.8
1989	1.5	0.6	0.7	0.5	1.9	0.8	1.0	0.9
1991	1.6	0.6	0.8	0.6	1.7	0.8	1.0	0.8
1992	1.6	0.6	0.8	0.6	1.7	0.8	0.9	0.8
1993	1.6	0.7	0.7	0.6	1.8	0.9	0.9	0.9
1994	1.6	0.7	0.7	0.6	1.8	0.9	0.9	0.9
1995	1.6	0.6	0.7	0.6	1.9	0.9	0.9	0.8
1996	1.5	0.7	0.7	0.6	1.9	0.9	0.9	0.8

SOURCE: U.S. Department of Commerce, Bureau of the Census, March Current Population Surveys.

Table S33 Standard errors for the text table in *Indicator 33*

Year	Grades 9–11		Some college		Bachelor's degree or higher	
	Male	Female	Male	Female	Male	Female
1970	0.02	0.05	0.02	0.06	0.02	0.06
1972	0.02	0.03	0.02	0.05	0.02	0.05
1974	0.02	0.06	0.02	0.05	0.02	0.06
1976	0.02	0.04	0.02	0.06	0.02	0.05
1978	0.03	0.02	0.03	0.04	0.03	0.05
1980	0.02	0.04	0.02	0.04	0.02	0.04
1982	0.02	0.04	0.02	0.03	0.02	0.05
1984	0.03	0.04	0.04	0.03	0.05	0.04
1986	0.02	0.04	0.02	0.04	0.03	0.04
1988	0.03	0.03	0.02	0.04	0.04	0.03
1990	0.03	0.04	0.03	0.03	0.03	0.04
1991	0.03	0.05	0.03	0.03	0.02	0.04
1992	0.03	0.04	0.03	0.04	0.03	0.05
1993	0.03	0.03	0.02	0.04	0.03	0.05
1994	0.03	0.04	0.03	0.03	0.03	0.05
1995	0.02	0.03	0.03	0.04	0.03	0.06

SOURCE: U.S. Department of Commerce, Bureau of the Census, March Current Population Surveys.

Table S34(a) Standard errors for the first text table in *Indicator 34*

Major field of study	Year of graduation					
	1977	1980	1984	1986	1990	1993
Humanities	3.4	1.9	2.4	1.5	2.4	2.2
Social and behavioral sciences	1.8	1.8	2.3	1.8	1.6	1.6
Natural sciences	3.1	4.1	3.1	2.2	3.1	2.3
Computer sciences and engineering	2.9	2.9	1.9	1.5	1.8	2.9
Education	1.3	1.2	1.8	1.2	1.6	1.6
Business and management	1.6	1.8	1.4	0.8	1.6	2.2
Other professional or technical	2.8	2.2	1.7	1.2	2.1	2.4

SOURCE: U.S. Department of Education, National Center for Education Statistics, Recent College Graduates Surveys (1977–90) and 1993 Baccalaureate and Beyond Longitudinal Study, First Follow-up (B&B:93/94).

Table S34(b) Standard errors for the second text table in *Indicator 34*

Major field of study	All graduates	Male		Female	
		Percentage in field	Median starting salary	Percentage in field	Median starting salary
Total	**$244**	—	**$381**	—	**$227**
Humanities	488	0.8	686	0.8	510
Social and behavioral sciences	342	0.8	681	0.8	434
Natural sciences	505	0.6	919	0.6	704
Computer sciences and engineering	622	1.2	646	0.4	1,602
Education	353	0.6	708	1.8	388
Business and management	526	1.6	656	1.2	568
Other professional or technical	567	1.2	985	1.1	746

— Not applicable.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Recent College Graduates Surveys (1977–90) and 1993 Baccalaureate and Beyond Longitudinal Study, First Follow-up (B&B:93/94).

Table S35 Standard errors for the text table in *Indicator 35*

Selected characteristics	Total	No community service in high school	Reported performing community service in high school: Total	Strictly voluntary	Required
Total	**0.7**	**0.8**	**1.0**	**1.1**	**1.5**
Control of high school					
Public	0.7	0.8	1.0	1.1	1.7
Catholic	2.4	3.9	2.9	3.6	3.7
Private, other	4.2	5.8	4.0	4.2	5.2
Postsecondary attendance status					
Attended	0.8	1.1	1.1	1.2	1.6
Not attended	1.0	1.1	2.3	2.6	3.9

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Education Longitudinal Study of 1988, Second Follow-up (1992) and Third Follow-up (1994).

Table S36 Standard errors for the text table in *Indicator 36*

Time spent on homework and teachers' use of homework	Public: Total	Public: Years of teaching experience: Less than 4 years	Public: Years of teaching experience: 4 years or more	Private: Total	Private: Years of teaching experience: Less than 4 years	Private: Years of teaching experience: 4 years or more
Average time spent on homework during an average week						
None	1.0	0.6	1.1	0.6	1.6	0.6
One hour or less	2.3	3.6	2.6	2.7	4.7	3.3
Between one and two hours	1.9	3.9	2.2	2.2	4.2	2.6
More than two hours	2.0	2.6	2.3	2.0	4.0	2.5
Percentage of teachers who often used written homework in the following ways:						
Record only whether assignments were completed	2.7	3.6	3.1	2.5	4.0	2.8
Collect, correct, and keep assignments	2.0	3.7	2.3	2.6	3.7	3.0
Keep items in a student portfolio	2.1	3.5	2.4	3.0	3.0	3.4
Collect, correct, and return assignments to students	2.2	2.9	2.5	2.2	2.6	2.5
Use assignments as a basis for grading students	2.2	3.8	2.4	2.7	4.3	3.1

SOURCE: U.S. Department of Education, National Center for Education Statistics, Teacher Follow-up Survey, 1994-95.

Table S37 Standard errors for the text table in *Indicator 37*

Selected teaching methods	Public			Private		
	Total	Elementary	Secondary	Total	Elementary	Secondary
Percentage of teachers who reported using the following instructional strategies at least once a week						
Provide instruction to the class as a whole	0.4	0.4	0.4	0.6	0.7	0.7
Demonstrate a concept using the board or overhead projector	0.7	0.7	1.2	1.1	1.0	1.7
Work with individual students	0.4	0.2	0.7	0.7	0.5	1.4
Demonstrate a concept using a computer, videotape, or other electronic medium	1.0	2.0	1.7	1.5	2.5	2.2
Lecture	1.3	2.1	1.5	1.6	2.3	2.3
Work with small groups of students	0.6	0.9	1.1	1.2	1.8	2.2
Percentage of teachers who required students to perform the following in-class activities at least once a week						
Respond orally to questions testing recall	0.8	0.8	1.3	1.0	1.4	1.5
Complete a worksheet or workbook emphasizing routine practice	0.9	1.3	1.4	1.2	1.2	2.0
Use a textbook	1.2	1.5	1.4	1.3	1.6	1.7
Engage in discussion primarily with the teacher	0.9	0.8	1.4	1.2	1.5	1.8
Use school computers for writing	1.1	2.5	1.4	1.5	2.8	1.6
Respond orally to open-ended questions	0.8	1.2	1.4	1.0	1.1	1.8

SOURCE: U.S. Department of Education, National Center for Education Statistics, Teacher Follow-up Survey, 1994-95.

Table S38 Standard errors for the text table in *Indicator 38*

Portfolio uses	Public			Private		
	Total	Less than 4 years	4 or more years	Total	Less than 4 years	4 or more years
Total teachers who used student portfolios	**2.0**	**2.9**	**2.2**	**2.9**	**3.8**	**3.3**
Of those teachers who used student portfolios, those who used them for more than one subject	2.5	2.0	2.8	2.7	4.1	3.2
Teachers using student portfolios who reported using them at least once a week in the following ways						
Training students to reflect upon and/or assess each piece of work	2.3	4.0	2.6	3.0	5.5	3.5
Training students to reflect upon and/or assess their overall progress	2.3	3.9	2.5	3.2	4.8	3.7
Communicating student progress to parents	1.7	3.2	1.8	2.9	4.3	3.2
Determining student grades or other formal progress reports	2.3	2.5	2.6	3.0	5.5	3.3
Planning for future lessons	2.6	3.4	2.9	3.3	5.6	3.9
Diagnosing student learning problems	2.4	3.4	2.7	2.9	6.0	3.4
Making informed decisions about student placement	2.0	2.8	2.3	2.6	4.4	3.0
Providing information for program/school accountability	1.6	2.2	1.8	2.2	3.0	2.5

SOURCE: U.S. Department of Education, National Center for Education Statistics, Teacher Follow-up Survey, 1994-95.

Table S39(a) Standard errors for the first text table in *Indicator 39*

Control and level of school	1987–88	1990–91	1993–94
Public			
Elementary	0.1	0.1	0.1
Secondary	0.1	0.1	0.1
Private			
Elementary	0.3	0.2	0.2
Secondary	0.5	0.3	0.2

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey, 1987–88, 1990–91, and 1993–94.

Table S39(b) Standard errors for the second text table in *Indicator 39*

	Public		Private	
Selected school characteristics	Elementary	Secondary	Elementary	Secondary
Total	**0.1**	**0.1**	**0.2**	**0.2**
Urbanicity				
Central city	0.3	0.2	0.3	0.2
Urban fringe/large town	0.2	0.2	0.4	0.3
Rural/small town	0.2	0.1	0.7	0.7
Percentage of minority students enrolled				
Less than 20 percent	0.2	0.1	0.3	0.3
20 percent or more	0.2	0.2	0.4	0.3
Percentage of students eligible for free or reduced-price lunch				
0–5	0.3	0.2	—	—
6–20	0.4	0.1	—	—
21–40	0.4	0.1	—	—
41 or more	0.2	0.2	—	—
School size				
Less than 150	0.4	0.2	0.4	0.9
150–499	0.3	0.1	0.2	0.3
500–749	0.2	0.2	1.0	0.3
750 or more	0.3	0.1	0.9	0.3

— Not applicable.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey, 1993–94.

Table S40 Standard errors for the text table in *Indicator 40*

Professional development topic and type of support received	Public			Private		
	Total	Elementary	Secondary	Total	Elementary	Secondary
In-service education or professional development topic						
Uses of educational technology for instruction	0.5	0.6	0.5	0.8	0.9	1.2
Methods of teaching in specific subject field	0.4	0.6	0.4	0.6	0.8	1.4
In-depth study in specific field	0.3	0.5	0.3	0.4	0.5	1.1
Student assessment	0.4	0.6	0.5	0.7	1.0	1.3
Cooperative learning in the classroom	0.4	0.6	0.5	1.0	1.0	1.5
Type of support received during the 1993–94 school year for in-service education or professional development						
Released time from teaching	0.4	0.7	0.4	0.9	1.1	1.0
Scheduled time	0.4	0.6	0.4	0.6	0.9	1.0
Travel and/or per diem expenses	0.4	0.6	0.3	0.6	0.8	1.1
Tuition and/or fees	0.3	0.5	0.3	0.8	0.9	1.4
Professional growth credits	0.4	0.5	0.3	0.6	0.7	0.9
None of the above	0.3	0.5	0.3	0.7	0.9	1.2

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey, 1993–94 (Teacher Questionnaire).

Table S41 Standard errors for the text table in *Indicator 41*

School and classroom decisions	All schools	Public			Private		
		Total	Elementary	Secondary	Total	Elementary	Secondary
Percentage of teachers who reported that teachers had a good deal of influence in their school over							
Setting discipline policy	0.4	0.4	0.7	0.3	0.8	0.9	1.1
Determining the content of in-service programs	0.4	0.4	0.7	0.4	0.6	0.8	1.0
Establishing curriculum	0.4	0.4	0.6	0.4	0.6	0.8	1.0
Percentage of teachers who reported a good deal of control in their classroom over							
Selecting textbooks and other instructional materials	0.4	0.4	0.7	0.4	0.6	0.8	0.9
Selecting content, topics, and skills to be taught	0.4	0.4	0.7	0.4	0.5	0.9	0.8
Selecting teaching techniques	0.2	0.3	0.5	0.3	0.4	0.5	0.5
Evaluating and grading students	0.2	0.3	0.4	0.3	0.3	0.5	0.5
Disciplining students	0.4	0.4	0.7	0.5	0.4	0.6	0.7
Determining the amount of homework to be assigned	0.3	0.4	0.6	0.3	0.5	0.7	0.6
Percentage of principals who reported that teachers had a good deal of influence over							
Setting discipline policy	0.5	0.6	0.7	1.0	1.3	1.5	2.5
Determining the content of in-service programs	0.6	0.7	0.9	0.7	1.3	1.6	3.0
Establishing curriculum	0.7	0.8	1.1	0.8	1.4	1.6	2.2

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey, 1993–94 (Teacher and Administrator Questionnaires).

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Table S42 Standard errors for the text table in *Indicator 42*

Control and level of school and teacher characteristics	Average hours worked per week	Average hours required at school	Average hours spent before and after school and on weekends: Total	Average hours spent before and after school and on weekends: Activities involving students	Average hours spent before and after school and on weekends: Other related activities	Average class size	Average number of classes taught per day
Public	**0.1**	**0.1**	**0.1**	***0.0**	***0.0**	**0.1**	***0.0**
Level of school							
Elementary	0.1	0.1	0.1	0.1	0.1	0.4	0.1
Secondary	0.1	0.1	0.1	0.1	0.1	0.1	*0.0
Years of teaching experience							
Less than 4 years	0.3	0.3	0.2	0.1	0.2	0.2	0.1
4 years or more	0.1	0.1	0.1	*0.0	0.1	0.1	*0.0
Private	**0.2**	**0.1**	**0.1**	**0.1**	**0.1**	**0.2**	***0.0**
Level of school							
Elementary	0.3	0.2	0.2	0.1	0.1	0.4	0.2
Secondary	0.3	0.2	0.2	0.1	0.1	0.2	*0.0
Years of teaching experience							
Less than 4 years	0.3	0.2	0.3	0.2	0.2	0.3	0.1
4 years or more	0.2	0.2	0.1	0.1	0.1	0.2	0.1

* Standard errors less than 0.05 are rounded to 0.0.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey, 1993–94 (Teacher Questionnaire).

Table S43 Standard errors for the text table in *Indicator 43*

Activity	Total	Academic rank: Full professor	Academic rank: Associate professor	Academic rank: Assistant professor	Academic rank: Instructor	Academic rank: Lecturer	Type of institution: Research	Type of institution: Doctoral	Type of institution: Comprehensive	Type of institution: Liberal arts	Type of institution: 2-year
Fall 1992											
Teaching	0.5	0.7	0.8	0.7	1.0	2.4	0.8	1.2	0.6	0.8	0.8
Research/scholarship	0.4	0.6	0.6	0.7	0.3	1.5	0.9	0.8	0.4	0.7	0.2
Professional growth	0.1	0.1	0.1	0.1	0.2	0.6	0.2	0.2	0.1	0.2	0.2
Administration	0.2	0.4	0.5	0.3	0.6	1.5	0.5	0.6	0.4	0.7	0.7
Outside consulting/ freelance work	0.1	0.1	0.2	0.1	0.2	0.4	0.2	0.2	0.1	0.2	0.2
Service and other	0.2	0.2	0.3	0.5	0.6	2.4	0.6	0.7	0.2	0.4	0.3
Fall 1987											
Teaching	0.8	1.2	1.0	1.1	1.7	2.3	1.3	1.5	1.5	1.1	1.0
Research/scholarship	0.6	1.1	0.8	0.9	0.9	1.3	1.2	1.2	0.5	1.2	0.3
Professional growth	0.2	0.3	0.4	0.2	0.6	1.0	0.4	0.4	0.2	0.4	0.3
Administration	0.3	0.6	0.5	0.4	1.1	1.2	0.5	0.8	0.7	0.9	0.7
Outside consulting/ freelance work	0.1	0.2	0.2	0.2	0.5	1.0	0.2	0.5	0.2	0.3	0.3
Service and other	0.4	0.5	0.6	0.9	0.6	1.3	0.7	0.5	0.6	0.3	0.4

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Study of Postsecondary Faculty, 1988 and 1993.

Table S45 Standard errors for the text table in *Indicator* 45

Level of school, urbanicity, and school size	Percentage of schools with LEP students	Percentage of schools providing:						Percentage of schools with bilingual/ESL vacancies that found them difficult or impossible to fill	
		Bilingual programs		ESL programs		Either bilingual or ESL programs			
	1993-94	1987-88	1993-94	1987-88	1993-94	1987-88	1993-94	1990-91	1993-94
Total	**0.6**	**0.5**	**0.5**	**0.6**	**0.6**	**0.6**	**0.6**	**2.7**	**1.9**
Level of school									
Elementary	0.7	0.6	0.7	0.8	0.8	0.8	0.8	3.6	2.6
Secondary	0.7	0.7	0.6	0.7	0.7	0.8	0.7	2.8	2.5
Urbanicity									
Central city	1.0	1.1	1.5	1.2	1.1	1.4	1.2	4.5	3.4
Urban fringe/large town	1.0	0.9	1.1	1.3	1.2	1.3	1.2	4.4	3.2
Rural/small town	0.9	0.6	0.6	0.8	0.8	0.8	0.7	4.2	4.2
School size									
1-149	1.3	1.4	0.8	1.5	1.4	1.6	1.4	9.3	8.9
150-499	0.9	0.6	0.8	0.9	0.9	1.0	0.9	4.2	3.6
500-749	1.3	1.0	1.1	1.3	1.3	1.3	1.2	5.9	4.4
750 or more	1.4	1.1	1.4	1.2	1.3	1.1	1.3	3.3	3.8

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey, 1987-88, 1990-91, and 1993-94 (School Questionnaire).

Table S47(a) Standard errors for the first text table in *Indicator 47*

Type of drug	1975	1978	1981	1984	1987	1990	1993	1994	1995	1996
Alcohol	0.4	0.2	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4
Marijuana	0.5	0.4	0.4	0.4	0.4	0.4	0.3	0.4	0.4	0.4
Any illicit drug other than marijuana	0.5	0.3	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3
Stimulants	0.4	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2
Inhalants	—	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2
LSD	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Cocaine	0.2	0.2	0.2	0.3	0.2	0.2	0.1	0.2	0.2	0.2
Sedatives	0.3	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	—
Tranquilizers	0.3	0.2	0.2	0.2	0.2	0.1	0.1	0.2	0.2	0.2

— Not available.

SOURCE: University of Michigan, Survey Research Center, Institute for Social Research, Monitoring the Future Study.

Table S47(b) Standard errors for the second text table in *Indicator 47*

	Alcohol			Marijuana			Cocaine		
Sex and college plans	8th-graders	10th-graders	12th-graders	8th-graders	10th-graders	12th-graders	8th-graders	10th-graders	12th-graders
Total	**0.4**	**0.4**	**0.4**	**0.3**	**0.3**	**0.4**	**0.1**	**0.1**	**0.2**
Sex									
Male	0.6	0.5	0.5	0.4	0.5	0.6	0.2	0.2	0.3
Female	0.5	0.5	0.5	0.4	0.5	0.5	0.2	0.2	0.2
College plans									
Less than 4 years or none	1.1	0.9	0.7	1.1	1.0	0.8	0.6	0.5	0.4
Complete 4 years	0.4	0.4	0.4	0.3	0.4	0.4	0.1	0.1	0.2

SOURCE: Lloyd D. Johnston, Patrick O'Malley, and Jerald G. Bachman, *National Survey Results on Drug Use from the Monitoring the Future Study, 1975–1995, Volume I, Secondary School Students*, Institute for Social Research, University of Michigan, 1996.

Table S48 Standard errors for the text table in *Indicator 48*

		Race/ethnicity				
Sex and Socioeconomic status	Total	White	Black	Hispanic	Asian/Pacific Islander	American Indian/ Alaskan Native
Total	**0.5**	**0.5**	**1.8**	**1.4**	**2.0**	**7.2**
Sex						
Male	0.7	0.8	2.9	2.1	2.2	6.8
Female	0.6	0.6	2.2	1.8	2.9	5.7
Socioeconomic status						
Lowest quartile	1.2	1.4	3.2	2.5	5.4	—
Second quartile	1.0	1.0	3.8	2.2	2.4	—
Third quartile	0.9	0.9	3.3	2.5	6.2	5.3
Highest quartile	0.6	0.6	3.5	3.9	0.8	—

— Not available.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Education Longitudinal Study of 1988, Second Follow-up (1992).

Table S49 Standard errors for the text table in *Indicator 49*

Perceptions and attitudes	1987-88	1993-94				
			Percentage of students eligible for free or reduced-price lunch			
		Total	0-5	6-20	21-40	41 or more
Percentage of teachers who strongly agree with the following:						
The level of student misbehavior (e.g., noise, horseplay, or fighting in the halls, cafeteria, or student lounge) in this school interferes with my teaching	0.2	0.3	0.5	0.4	0.5	0.6
Teachers participate in making most of the important educational decisions in this school	0.2	0.3	0.9	0.6	0.6	0.5
I receive a great deal of support from parents for the work I do	0.2	0.2	1.2	0.6	0.5	0.4
Necessary materials are available as needed by the staff	0.3	0.4	1.3	0.8	0.7	0.7
Routine duties and paperwork interfere with my job of teaching	0.3	0.3	1.0	0.7	0.7	0.6
My principal enforces school rules for student conduct and backs me up when I need it	0.3	0.5	1.2	0.9	0.7	0.8
There is a great deal of cooperative effort among the staff members	0.3	0.5	1.3	0.9	0.8	0.8

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey, 1987-88 and 1993-94.

Table S50 Standard errors for the text table in *Indicator 50*

October	All students			White			Black			Hispanic		
	Total	20 or more hours	35 or more hours	Total	20 or more hours	35 or more hours	Total	20 or more hours	35 or more hours	Total	20 or more hours	35 or more hours
1970	0.9	0.7	0.4	1.0	0.7	0.4	3.0	2.0	1.0	—	—	—
1972	0.9	0.7	0.3	1.0	0.7	0.4	2.7	2.2	1.6	5.2	4.3	1.7
1974	0.9	0.7	0.4	1.0	0.8	0.4	2.8	2.2	1.4	4.2	3.3	2.2
1976	0.9	0.7	0.3	1.0	0.7	0.4	2.3	1.8	1.2	4.0	2.9	1.4
1978	0.9	0.7	0.4	1.0	0.8	0.4	2.4	1.9	1.2	4.9	4.3	2.5
1980	0.9	0.7	0.3	1.0	0.8	0.4	2.5	1.9	1.3	4.2	3.8	1.8
1982	0.9	0.7	0.3	1.0	0.8	0.4	2.7	2.0	1.2	4.3	3.2	1.1
1984	0.9	0.8	0.4	1.0	0.8	0.4	2.6	2.1	1.1	4.0	3.3	1.7
1986	0.9	0.8	0.4	1.1	0.9	0.4	2.5	2.0	1.1	4.2	3.6	1.2
1988	1.0	0.9	0.4	1.1	1.0	0.5	3.0	2.5	1.2	4.9	4.5	2.5
1990	0.9	0.8	0.4	1.1	0.9	0.5	2.7	2.3	1.0	4.5	4.0	2.2
1991	0.9	0.8	0.4	1.1	0.9	0.5	2.8	2.4	1.1	4.1	3.8	1.7
1992	0.9	0.8	0.4	1.1	0.9	0.5	2.7	2.3	1.2	3.9	3.6	1.7
1993	0.9	0.8	0.4	1.1	1.0	0.5	2.7	2.3	1.1	3.8	3.3	1.8
1994	0.9	0.8	0.4	1.1	1.0	0.5	2.6	2.3	1.3	4.1	3.7	1.8
1995	0.9	0.8	0.5	1.1	1.0	0.5	2.7	2.4	1.1	3.5	3.1	2.0

— Not available.

SOURCE: U.S. Department of Commerce, Bureau of the Census, October Current Population Surveys.

Table S51 Standard errors for text table in *Indicator 51*

October	Total	Age			Race/ethnicity			Sex		Type of institution	
		18-24	25-34	35 or older	White	Black	Hispanic	Male	Female	2-year	4-year
1976	0.7	0.6	0.7	1.6	0.7	1.9	4.6	0.9	1.0	1.3	0.7
1978	0.7	0.7	0.7	1.5	0.7	2.1	5.8	1.0	1.0	1.3	0.7
1980	0.7	0.6	0.7	1.5	0.7	2.3	4.9	1.0	1.0	1.3	0.7
1982	0.7	0.6	0.7	1.5	0.7	2.4	5.1	0.9	1.0	1.2	0.7
1984	0.7	0.6	0.7	1.6	0.7	2.4	4.4	0.9	1.0	1.3	0.7
1986	0.7	0.7	0.7	1.8	0.8	2.3	4.6	1.0	1.0	1.3	0.8
1988	0.7	0.7	0.7	1.6	0.7	2.3	4.4	1.0	1.0	1.3	0.8
1990	0.7	0.6	0.7	1.8	0.7	2.5	5.0	1.0	0.9	1.2	0.7
1991	0.7	0.6	0.7	1.7	0.7	2.2	4.5	1.0	0.9	1.2	0.7
1992	0.7	0.7	0.8	2.1	0.8	2.5	5.2	1.1	1.0	1.3	0.8
1993	0.7	0.7	0.8	2.1	0.8	2.4	4.9	1.0	1.0	1.3	0.8
1994	0.7	0.7	0.7	1.9	0.7	2.2	4.6	1.0	0.9	1.2	0.8
1995	0.7	0.7	0.7	1.9	0.7	2.4	4.0	1.0	0.9	1.3	0.7

SOURCE: U.S. Department of Commerce, Bureau of the Census, October Current Population Surveys.

Table S56 Standard errors for the second text table in *Indicator 56*

Urbanicity and percentage of minority students enrolled	School earnings				Non-school compensation
	Total school earnings	Base salary	Summer supplemental earnings	Other school compensation	
Total	**$97**	**$99**	**$47**	**$29**	**$153**
Central city	181	183	103	64	257
Less than 20 percent	352	345	94	80	443
20 percent or more	207	210	145	90	314
Urban fringe/large town	253	244	69	71	379
Less than 20 percent	411	404	99	91	257
20 percent or more	345	340	99	106	803
Rural/small town	165	160	43	39	172
Less than 20 percent	225	221	54	46	229
20 percent or more	285	285	74	74	264

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey, 1993-94 (Teacher Questionnaire).

Table S57 Standard errors for the text table in *Indicator 57*

Class subject	Public			Private		
	Total	Less than 20 percent minority students	20 percent or more minority students	Total	Less than 20 percent minority students	20 percent or more minority students
			Majored in class subject			
Mathematics	0.9	1.0	1.8	2.6	2.8	5.3
Science	1.0	1.0	1.8	1.6	2.3	3.4
Biology	1.6	1.9	2.7	3.7	5.1	5.0
Chemistry	2.3	2.8	3.7	6.2	7.3	10.0
Physics	3.5	4.1	5.7	5.7	6.5	—
			Majored or minored in class subject			
Mathematics	1.0	1.0	1.9	2.5	2.5	5.5
Science	0.6	0.6	1.1	1.1	1.2	2.9
Biology	1.2	1.7	1.9	3.2	4.0	5.0
Chemistry	2.2	2.6	3.2	5.1	7.9	6.7
Physics	3.6	3.7	6.2	6.3	7.1	—
			Certified in class subject			
Mathematics	0.8	0.8	1.3	2.6	2.8	5.2
Science	0.7	0.7	1.2	2.3	2.4	5.7
Biology	1.1	1.5	1.8	2.7	4.0	7.4
Chemistry	1.6	1.8	3.0	6.3	4.7	7.6
Physics	2.1	2.3	3.2	6.6	7.9	—

— Not available.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey, 1993-94 (Teacher Questionnaire).

Table S58 Standard errors for the text table in *Indicator 58*

Teaching status and destination of leavers	Public			Private		
	1987-88 and 1988-89	1990-91 and 1991-92	1993-94 and 1994-95	1987-88 and 1988-89	1990-91 and 1991-92	1993-94 and 1994-95
Teaching status						
Teaching at same school	0.5	0.5	0.5	1.4	1.1	0.8
Moved to another school	0.5	0.3	0.4	0.8	0.6	0.5
Left teaching	0.4	0.4	0.3	0.9	0.8	0.7
Destination of leavers						
Working in education	2.5	2.2	2.0	2.2	2.1	2.4
Working outside education	1.9	2.2	2.5	3.2	4.1	2.9
Attending college	0.7	1.7	0.6	1.3	3.2	1.8
Homemaking/child rearing	3.6	3.6	2.9	4.1	2.6	2.7
Retired	2.9	2.7	2.4	1.6	2.0	1.5
Disabled	0.2	0.3	0.9	—	0.3	0.4
Other	1.7	2.4	2.9	3.2	3.0	3.1

— Not available.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey, 1987-88, 1990-91, and 1993-94, and the Teacher Follow-up Survey, 1988-89, 1991-92, and 1994-95.

Table S59 Standard errors for the text table in *Indicator 59*

Academic discipline and type of institution	Fall 1987 Articles/ creative works	Fall 1987 Books/ mono-graphs	Fall 1987 Present-ations/ exhibits	Fall 1987 Other	Fall 1992 Articles/ creative works	Fall 1992 Books/ mono-graphs	Fall 1992 Present-ations/ exhibits	Fall 1992 Other
Total	**0.1**	***0.0**	**0.2**	**0.1**	**0.1**	***0.0**	**0.1**	**0.1**
Academic discipline								
Agriculture/home economics	0.6	0.1	0.4	0.3	0.8	0.1	0.7	0.5
Business	0.2	0.1	0.2	0.2	0.2	0.1	0.2	0.2
Education	0.3	0.1	0.3	0.2	0.2	0.1	0.3	0.1
Engineering	0.3	0.1	0.6	0.5	0.4	0.1	0.6	0.4
Fine arts	0.3	*0.0	1.6	0.2	0.2	*0.0	1.5	0.1
Humanities	0.2	0.1	0.2	0.1	0.1	*0.0	0.2	0.1
Natural sciences	0.2	*0.0	0.2	0.6	0.2	*0.0	0.1	0.1
Social sciences	0.3	0.1	0.3	0.2	0.2	0.1	0.2	0.2
All other fields	0.5	0.1	0.4	0.2	0.2	*0.0	0.2	0.1
Type of institution								
Research	0.2	0.1	0.3	0.4	0.2	0.1	0.3	0.1
Doctoral	0.3	0.1	0.6	0.3	0.2	0.1	0.4	0.1
Comprehensive	0.2	*0.0	0.4	0.3	0.1	*0.0	0.2	0.1
Liberal arts	0.2	0.1	0.5	0.1	0.2	*0.0	0.5	0.1
2-year	0.2	*0.0	0.4	0.3	0.1	*0.0	0.1	0.1
Other	0.3	0.1	0.2	0.2	0.3	0.1	0.9	0.2

* Standard errors less than 0.05 are rounded to 0.0.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Study of Postsecondary Faculty, 1988 and 1993.

Table S60 Standard errors for the text table in *Indicator 60*

Institutional characteristics and faculty employment status	All institutions Tenure-track	All institutions Nontenure-track	All institutions No tenure system at institution	Institutions with tenure systems Tenure-track	Institutions with tenure systems Nontenure-track
Total	**0.9**	**0.8**	**0.6**	**0.9**	**0.9**
4-year institutions	1.2	1.0	0.6	1.1	1.1
Public	1.3	1.3	0.4	1.3	1.3
Private	1.9	1.5	1.2	1.7	1.7
2-year public	1.3	1.1	1.2	1.3	1.3
Type of institution					
Research university	2.4	2.3	0.2	2.4	2.4
Doctoral university	2.1	2.1	0.3	2.1	2.1
Comprehensive university	1.8	1.6	0.6	1.6	1.6
Liberal arts	3.5	2.3	2.6	2.9	2.9
2-year	1.3	1.2	1.2	1.3	1.3
Other	4.1	3.7	4.8	4.0	4.0
Employment status					
Part-time	0.4	0.7	0.6	0.4	0.4
Full-time	0.8	0.4	0.7	0.5	0.5

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Study of Postsecondary Faculty, 1993.

Sources of Data

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1. Federal Agency Sources

National Center for Education Statistics U.S. Department of Education

Baccalaureate and Beyond Longitudinal Study

The Baccalaureate and Beyond Longitudinal Study (B&B) is based on the National Postsecondary Student Aid Study (NPSAS) and provides information concerning education and work experience after completing the bachelor's degree. B&B provides cross-sectional information 1 year after bachelor's degree completion (comparable to the Recent College Graduate Study), while at the same time providing longitudinal data concerning entry into and progress through graduate level education and the work force. It also provides information on entry into, persistence and progress through, and completion of graduate level education—information not available through followups involving high school cohorts or even college entry cohorts, both of which are restricted in the number who actually complete a bachelor's degree and continue their education.

B&B will follow NPSAS baccalaureate degree completers for a 12-year period after completion, beginning with NPSAS:93. About 11,000 students who completed their degree in the 1992–93 academic year were included in the first B&B (B&B:93/94). In addition to the student data, B&B collected postsecondary transcripts covering the undergraduate period, providing complete information on progress and persistence at both the undergraduate and graduate levels. New B&B cohorts will alternate with BPS in using NPSAS as their base.

For additional information about B&B contact:

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Beginning Postsecondary Students Longitudinal Study

The Beginning Postsecondary Students Longitudinal Study (BPS) provides information on persistence, progress, and attainment of students from their initial time of entry into postsecondary education through their leaving school and entering the work force. BPS includes traditional and nontraditional (e.g., older) students and is representative of all beginning students in postsecondary education. BPS follows first-time, beginning students for at least 6 years at 2-year intervals, collecting student data, postsecondary transcripts, and financial aid reports. By starting with a cohort that has already entered postsecondary education (from the NPSAS:90), and following it for 6 years (with the first followup in spring 1992 and the second followup in spring 1994), BPS is able to determine to what extent, if any, students who start postsecondary education later differ in their progress, persistence, and attainment.

For additional information about BPS, contact:

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Common Core of Data

The Common Core of Data (CCD) survey provides the National Center for Education Statistics (NCES) with a way to acquire and maintain statistical data on the 50 states, the District of Columbia, and five outlying areas from the universe of state-level education agencies. Information about staff and students is collected annually at the school, local education agency or school district (LEA), and state levels. Information about revenues and expenditures also is collected at the state level, and NCES joins the Bureau of Census in collecting school district finance data. Data are collected for a particular school year (October 1 through September 30) via survey instruments sent to the states by October 15 of the subsequent school year. States have 1 year in which to modify the data originally submitted.

For additional information about CCD, contact:

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High School and Beyond

High School and Beyond (HS&B) is a national longitudinal study of 1980 high school sophomores and seniors. The base-year survey was a probability sample of 1,015 high schools, with a target number of 36 sophomores and 36 seniors in each schools. A total of 58,270 students participated in the base-year survey. Substitutions were made for noncooperating schools—but not for students—in those strata where it was possible. Overall, 1,122 schools were selected in the original sample and 811 of these schools participated in the survey. An additional 204 schools were drawn in a replacement sample. Student refusals and student absences resulted in an 82 percent completion rate for the survey.

HS&B first followup activities were conducted in the spring of 1982. The sample design of the first followup survey called for the selection of approximately 30,000 individuals who were sophomores in 1980. The completion rate for sophomores eligible for on-campus survey administration was about 96 percent. About 89 percent of the students who left school between the base-year and first followup surveys (dropouts, transfer students, and early graduates) completed the first followup sophomore questionnaire.

The sample for the second followup, which took place in the spring of 1984, consisted of about 12,000 members of the senior cohort and about 15,000 members of the sophomore cohort. The completion rates were 91 and 92 percent, respectively.

HS&B third followup data collection activities were conducted in the spring of 1986. Both the sophomore and senior cohort samples for this round of data collection were the same as those used for the second followup survey. The completion rates for the sophomore and senior cohort samples were 91 percent and 88 percent, respectively.

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High School Transcript Studies

As part of the first followup of High School and Beyond (HS&B), transcripts were requested in fall 1982 for an 18,152-member subsample of the sophomore cohort. Of the 15,941 transcripts actually obtained, 1,969 were excluded because the students had dropped out of school before graduation; 799 were excluded because they were incomplete; and 1,057 were excluded because the students graduated before 1982 or the transcript indicated neither a dropout status nor graduation. Thus, 12,116 transcripts were used for an overall curriculum analysis.

Transcripts of 1987 high school graduates were compared to transcripts of 1982 graduates to describe changes in course-taking patterns across this 5-year period. The sample of schools for the 1987 High School Transcript Study consisted of a nationally representative sample of 497 secondary schools selected for the 1986 National Assessment of Educational Progress (NAEP) for students in grade 11 who were 17 years old, of which 433 schools participated. The 1987 study was restricted to students who were in grade 11 during school year 1985–86 equaling 27,732 graduates. The 1990 High School Transcript Study was conducted using methodology and techniques nearly identical to those used in the 1987 study.

The analyses in the *Condition* focus on high school graduates, so only those students who had graduated from high school were included from the 1990 study, the 1987 High School Transcript Study, and from HS&B. Because the methods used to identify and define disabled students were different for the later studies, and in order to make the samples as comparable as possible, it was necessary to restrict the samples to those students whose records indicated they had not participated in a special education program. In the spring of 1991, transcripts were collected from 21,607 students who graduated from high school in 1990. These students attended 330 schools that had previously been sampled for the NAEP.

Between May and November of 1994, high school transcripts were collected from 25,573 students who graduated from high school in 1994. To be consistent with the 1982 study, students with an Individualized Education Program (IEP) were omitted. Also, students with incomplete transcripts were dropped, bringing the number of transcripts analyzed to 24,374. These students attended 340 schools that had previously been sampled by NAEP.

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Integrated Postsecondary Education Data System

The Integrated Postsecondary Education Data System (IPEDS) surveys all postsecondary institutions, including universities and colleges, as well as institutions offering technical and vocational education beyond the high school level. This survey, which began in 1986, replaces and expands upon the Higher Education General Information Survey (HEGIS).

IPEDS consists of several integrated components that obtain information on where postsecondary education is available (institutions), who participates in it and completes it (students), which programs are offered and are completed, and which human and financial resources are involved in the provision of institutionally based postsecondary education. Specifically, these components include: fall enrollment in occupationally specific programs; salaries of full-time instructional faculty; completions (degrees awarded); finance; staff; institutional characteristics, including institutional activity; fall enrollment, including age and residence; and academic libraries.

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Fall Enrollment. This survey has been part of the IPEDS or HEGIS series since 1966. The enrollment survey response rate is relatively high; for example, the 1992 response rate was 86.9 percent.

Beginning in fall 1986, the survey system was redesigned with the introduction of IPEDS (see above). The new survey system comprises all postsecondary institutions, but also maintains comparability with earlier surveys by allowing HEGIS institutions to be tabulated separately. The new system also provides for preliminary and revised data releases. This allows NCES the flexibility to release early data sets while still maintaining a more accurate final database.

Salaries, Tenure, and Fringe Benefits of Full-Time Instructional Faculty. This survey has been conducted for most years between 1966–67 and 1985–86, and in 1987–88 and 1989–90. Although the survey form was changed a number of times during those years, only comparable data are presented in this report. The data were collected from the individual colleges and universities.

Between 1966–67 and 1985–86 this survey differed from other HEGIS surveys in that imputations were not made for nonrespondents. Thus, there is some possibility that the salary averages presented in this report may differ from the results of a complete enumeration of all colleges and universities. Beginning with the surveys for 1987–88, the IPEDS data tabulation procedures included imputations for survey nonrespondents. The response rate for the 1993–94 survey was 90.1 percent.

Completions. This survey was always part of the HEGIS series. However, the degree classification taxonomy was revised in 1970 and again in 1980, with additional revisions in 1985 and 1990. Collection of degree data has been maintained through the IPEDS system.

Though information from survey years 1970–71 through 1981-82 is directly comparable, care must be taken if information before or after that period is included in any comparison. For example, degrees-conferred trend tables arranged by the 1982-83 classification were added to the *Digest of Education Statistics, 1992* to provide consistent data from 1970–71 to 1988–89. However, data on associate's degrees and other formal awards below the baccalaureate, by field of study after 1982-83, are not comparable with figures for earlier years. The nonresponse rate did not appear to be a significant source of nonsampling error for this survey. The return rate over the years was high, with a response rate for the 1992-93 survey of 88.2 percent. Because of the high return rate, nonsampling error caused by imputation was also minimal.

Financial Statistics. This survey was part of the HEGIS series and has been continued under the IPEDS system. Changes were made in the financial survey instruments in fiscal years (FY) 1976, 1982, and 1987. The FY 76 survey instrument contained numerous revisions to earlier survey forms and made direct comparisons of line items very difficult. Beginning in FY 82, Pell grant data were collected on federal restricted grants and contracts revenues and restricted scholarships and fellowships expenditures. The introduction of IPEDS in the FY 87 survey included several important changes to the survey instrument and data processing procedures. While these changes were significant, considerable effort has been made to present only comparable information on trends in this report and to note inconsistencies. Finance tables for this publication have been adjusted by subtracting the largely duplicative Pell grant amounts from the later data to maintain comparability with pre-FY 82 data.

To reduce reporting error, NCES used national standards for reporting financial statistics. These standards are contained in *College and University Business Administration: Administrative Services* (1974 edition), published by the National Association of College and University Business Officers; *Audits of Colleges and Universities* (as amended August 31, 1974), by the American Institute of Certified Public Accountants; and *HEGIS Financial Reporting Guide* (1980), by NCES. Wherever possible, definitions and formats in the survey form are consistent with those in these three accounting texts.

Fall Staff. The fall staff data presented in this publication were collected in cooperation with the U.S. Equal Employment Opportunity Commission (EEOC). In 1989, survey instruments were mailed to 6,669 in-scope postsecondary education institutions, including 2,576 4-year schools, 2,739 2-year schools, and 273 public less-than-2-year schools. The universe of 5,002 less-than-2-year private institutions were represented by a sample of 1,071 institutions.

The 3,589 institutions of higher education (in the 50 states and the District of Columbia) in operation in 1989 form a subset of the universe of postsecondary institutions in this report. These institutions are accredited at the college level by an agency recognized by the Secretary, U.S. Department of Education; these institutions were previously surveyed under HEGIS, which IPEDS supersedes. The EEOC 1991 "Fall Staff" survey had an overall response rate of 84.9 percent.

Institutional Characteristics. This survey provided the basis for the universe of institutions presented in the *Education Directory, Colleges and Universities*. The universe comprised institutions that met certain accreditation criteria and offered at least a 1-year program of college-level studies leading toward a degree. All of these institutions were certified as eligible by the U.S. Department of Education's Division of Eligibility and Agency Evaluation. Each fall, institutions listed in the previous year's *Directory* were asked to update a computer printout of their information.

National Adult Literacy Survey

The National Adult Literacy Survey (NALS) was created as a new measure of literacy and funded by the U.S. Department of Education and by 12 states. It is the third, and largest, assessment of adult literacy funded by the federal government. The aim of the survey is to profile the English literacy of adults in the United States based on their performance across a wide array of tasks that reflect the types of materials and demands they encounter in their daily lives.

To gather the information on adults' literacy skills, trained staff interviewed nearly 13,600 individuals age 16 and older during the first 8 months of 1992. These participants had been randomly selected to represent the adult population in the country as a whole. In addition, some 1,100 inmates from 80 federal and state prisons were interviewed to gather information on the proficiencies of the prison population. In total, over 26,000 adults were surveyed.

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National Assessment of Educational Progress

The National Assessment of Educational Progress (NAEP) is a congressionally mandated study funded by the Office of Educational Research and Improvement (OERI), U.S. Department of Education. The overall goal of the project is to determine the nation's progress in education. To accomplish this goal, a cross-sectional study was designed and initially implemented in 1969. Periodically, NAEP has gathered information about levels of educational achievement across the country. NAEP has surveyed the educational accomplishments of 9-, 13-, and 17-year-old students (and in recent years, students in grades 4, 8, and 12), and occasionally young adults, in 10 learning areas. Different learning areas were assessed annually and, as of 1980-81, biennially. Most areas have been periodically reassessed in order to measure possible changes in education achievement.

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National Education Longitudinal Study of 1988

The National Education Longitudinal Study of 1988 (NELS:88) is the third major longitudinal study sponsored by NCES. The two studies that preceded NELS:88, the National Longitudinal Study of the High School Class of 1972 (NLS–72) and HS&B, surveyed high school seniors (and sophomores in HS&B) through high school, postsecondary education, and work and family formation experiences. Unlike its predecessors, NELS:88 began with a cohort of 8th-grade students.

NELS:88 is designed to provide trend data about critical transitions experienced by young people as they develop, attend school, and embark on their careers. It complements and strengthens state and local efforts by furnishing new information on how school policies, teacher practices, and family involvement affect student educational outcomes (i.e., academic achievement, persistence in school, and participation in postsecondary education). The base-year NELS:88 was a multifaceted study questionnaire with four cognitive tests, and questionnaires for students, teachers, parents, and the school.

Within the school sample, 26,000 eighth-grade students were selected at random. The first and second followups revisited the same sample of students in 1990, 1992 and 1994, when the 1988 eighth-graders were in the 10th and 12th grades and then 2 years after their scheduled high school graduation. A similar followup is being conducted in 1997.

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National Household Education Survey

The National Household Education Survey (NHES) is the first attempt by NCES to go beyond its traditional, school-based data collection to a household survey. Historically, NCES has collected data from teachers, students, and schools through school-based surveys and from administrative records data through surveys of school districts and state education agencies. NHES has the potential to address many education issues that have not been addressed previously by NCES data collections.

During the spring of 1991, NCES fielded a full-scale NHES on early education. Approximately 60,000 households were screened to identify a sample of children aged 3–8. The parents of these children were interviewed in order to collect information about their children's educational activities and the role of the family in children's learning. The NHES:93 is a subsequent survey conducted in the spring of 1993. It addressed readiness for school and safety and discipline in school. The NHES:93 early childhood component focused on readiness for school in a broad sense and examined several relevant issues. The School Safety and Discipline component of the NHES:93 addressed a new topic for the NHES. It focused on four areas: school environment, school safety, school discipline policy, alcohol/other drug use, and education. In the NHES:95 survey, the Early Childhood Program Participation component provides information on infants', toddlers', and preschoolers' participation in a variety of early care and education settings, including both home-based and center-based arrangements. The survey component also includes data on kindergarten and primary school history and experiences.

In NHES, an adult education supplement was also fielded. Adult household members were sampled and questioned about their participation in adult education. The adult education component was, for the most part, adapted from the previous Current Population Survey (CPS) adult education supplements. However, unlike the CPS, NHES collects information on both adult education participants and nonparticipants. The NHES:91 survey identified and screened more than 60,000 households. During the survey, a knowledgeable adult was asked a series of questions to screen all household members for adult education participation in a sample of about 20,000 of these 60,000 households, resulting in interviews with approximately 9,800 adult education participants. In the NHES:95 survey, of the 23,969 adults sampled for the adult education component, 80 percent (19,722) completed the interview.

For additional information about the child care and early education program participation component of NHES, contact:

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National Longitudinal Study of the High School Class of 1972

The National Longitudinal Study of the High School Class of 1972 (NLS) was the first major longitudinal study sponsored by NCES. NLS was designed to produce representative data at the national level on the cohort of students who were in the 12th grade in 1972. The 1972 base study was followed by follow-up studies in 1973, 1974, 1976, 1979, and 1986. The followup studies asked respondents about their education and work plans, community characteristics, family structure, attitudes and opinions, school characteristics, grade point average, credits earned, and financial assistance for postsecondary education. After NLS, NCES sponsored two other major longitudinal studies: High School and Beyond, and the National Education Longitudinal Study of 1988.

For further information on the National Longitudinal Study of 1972, contact:

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National Postsecondary Student Aid Study

NCES conducted the National Postsecondary Student Aid Study (NPSAS) for the first time during the 1986–87 school year. This survey established the first comprehensive student financial aid database. Data were gathered from 1,074 postsecondary institutions and approximately 60,000 students and 14,000 parents. These data provided information on the cost of postsecondary education, the distribution of financial aid, the characteristics of both aided and nonaided students and their families, and the nature of aid packages.

In response to the continuing need for these data, NCES conducted the second and third cycle of NPSAS in the 1989–90 and 1992–93 school years.

The 1990 in-school sample involved approximately 70,000 students selected from registrar lists of enrollees at 1,200 postsecondary institutions. The 1993 sample was taken from 77,000 students at 1,000 postsecondary institutions. The sample included both aided and nonaided students. Student information such as field of study, education level, and attendance status (part time or full time) was obtained from registrar records. Types and amounts of financial aid and family financial characteristics were abstracted from school financial aid records. Also, approximately 16,000 parents of students were sampled in 1990 and 12,500 parents were sampled in 1993. Data on family composition and parent financial characteristics also were compiled. Students enrolled in postsecondary education for the first time in 1989–90 served as the base BPS. Students who received a bachelor's degree in 1992–93 served as the base for B&B.

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National Survey of Postsecondary Faculty

The National Survey of Postsecondary Faculty (NSOPF-88) was a comprehensive survey of higher education instructional faculty in the fall of 1987. It was the first such survey conducted since 1963, and it gathered information regarding the backgrounds, responsibilities, workloads, salaries, benefits, and attitudes of both full- and part-time instructional faculty and staff in 2- and 4-year institutions under both public and private control. In addition, information was gathered from institutional and department-level respondents on such issues as faculty composition, new hires, departures and recruitment, retention, and tenure policies.

There were three major components of the study: a survey of institutional-level respondents at a stratified random sample of 480 U.S. colleges and universities; a survey of a stratified random sample of 3,029 eligible department chairpersons (or their equivalent) within the participating 4-year institutions; and a survey of a stratified random sample of 11,013 eligible faculty members within the participating institutions. Response rates for the three surveys were 88 percent, 80 percent, and 76 percent, respectively.

The universe of institutions from which the sample was selected was all accredited nonproprietary U.S. postsecondary institutions that grant a 2-year (associate's) or higher degree and whose accreditation at the higher education level is recognized by the U.S. Department of Education. This includes religious, medical, and other specialized postsecondary institutions as well as 2- and 4-year nonspecialized institutions. According to the 1987 IPEDS, this universe comprised 3,159 institutions. The universe does not include proprietary 2- and 4-year institutions or less-than-2-year postsecondary institutions.

The second cycle of NSOPF, conducted in 1992–93, was limited to surveys of faculty and institutions, but with a substantially expanded sample of 974 public and private nonproprietary higher education institutions and 31,354 faculty. Unlike NSOPF-88, which was limited to faculty whose regular assignment included instruction, the faculty universe for NSOPF-93 was expanded to include anyone who was designated as faculty, whether or not their responsibilities included instruction. Under this definition, researchers and administrators and other institutional staff who hold faculty positions but who do not teach were included in the sample. The definition of the institution universe for NSOPF-93 was identical to the one used in NSOPF-88.

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Postsecondary Education Quick Information System

NCES established the Postsecondary Education Quick Information System (PEQIS) to collect timely data on focused issues needed for program planning and policy development with a minimum burden on respondents. In addition to obtaining information on emerging issues quickly, PEQIS surveys are also used to assess the feasibility of developing large-scale data collection efforts on a given topic or to supplement other NCES postsecondary surveys.

The PEQIS panel is a nationally representative sample of approximately 1,500 2-year and 4-year postsecondary institutions in the United States. The panel consists of all types of postsecondary institutions at the 2-year and 4-year level, including universities, baccalaureate colleges, community colleges, trade and technical schools, and other postsecondary schools. PEQIS also includes a supplementary panel of less-than-2-year institutions. Depending on the topic of the survey, questionnaires either are sent to all institutions in the PEQIS panel, or to a subsample of the institutions, for example, institutions designated as higher education institutions.

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Projections of Education Statistics

Since 1964, NCES has published *Projections of Education Statistics,* a report that shows projections of key statistics for elementary and secondary schools and institutions of higher education. Data are included for enrollments, instructional staff, graduates, and earned degrees. *Projections* includes several alternative projection series and a methodology section describing the techniques and assumptions used to prepare them. Data in this edition of *The Condition of Education* reflect the intermediate projection series only.

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Recent College Graduates Study

NCES has conducted periodic surveys of individuals, about 1 year after graduation, to collect information on college outcomes. The Recent College Graduates (RCG) surveys have concentrated on those graduates entering the teaching profession.

To obtain accurate results on this smaller subgroup, graduates who are newly qualified to teach have been oversampled in each of the surveys.

The 1976 survey of 1974–75 college graduates was the first and smallest in the series. The sample consisted of 209 schools, of which 200 (96 percent) responded. Of the 5,506 graduates in the sample, 4,350 responded, for a response rate of 79 percent.

The 1981 survey was larger, with 301 institutions and 15,852 graduates. Responses were obtained from 286 institutions, for an institutional response rate of 95 percent, and from 9,312 graduates (716 others were determined to be out of scope), for a response rate of 62 percent.

The 1985 survey requested data from 18,738 graduates from 404 colleges. Responses were obtained from 13,200 students, for a response rate of 74 percent (885 were out of scope). The response rate for the colleges was 98 percent.

The 1987 survey form was sent to 21,957 graduates. Responses were received from 16,878, for a response rate of 79.7 percent. The *1987 Transcript Study* collected transcripts for each student who was part of the 1987 sample.

The 1991 survey sampled 18,135 graduates and 400 institutions. The response rates were 95 percent for the institutions and 83 percent for the graduates.

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Schools and Staffing Survey

The Schools and Staffing Survey (SASS) provides national- and state-level data on public and private schools, principals, schools districts, and teachers. The survey monitors teacher supply and demand conditions, school policies and programs, characteristics and qualifications of teachers and principals, and the general status of teaching and schooling. A proportion of the survey is devoted to school libraries and media centers as well as school librarians.

SASS is a multilevel linked set of surveys that allows comparison between public and private schools and linkages of teachers and principals to their schools and school districts. There are four components: the Teacher Demand and Shortage Survey, the Principal Survey, the School Survey, and the Teacher Survey. In the year following each SASS, a followup survey of teachers is conducted to measure teacher attrition and mobility.

SASS was first conducted in the 1987–88 school year, and again in 1990–91 and 1993–94. It will be conducted again in 1999–2000. The 1993–94 SASS sample consisted of approximately 9,900 public schools, 3,300 private schools, and 5,500 public school districts associated with the public schools in the sample. From these schools, about 57,700 public school teachers and 11,500 private school teachers were sampled.

The public school sample for the 1993–94 SASS was based upon the 1991–92 school year Common Core of Data (CCD), the compilation of all the nation's public school districts and public schools. The private school sample for the 1993–94 SASS was selected from the 1991–92 Private School Universe Survey (PSS), supplemented with list updates from states and some associations available in time for sample selections.

Public-use and restricted-use microdata files are available on CD-ROM or 9-track tape. Summary data from the 1993–94 SASS can be found in *Schools and Staffing in the United States: Selected Data for Public and Private Schools, 1993–94* (NCES 95-191). More detailed results from the 1993–94 SASS are published in *Schools and Staffing in the United States: A Statistical Profile, 1993–94* (NCES 96-124). Data by state are available in *SASS by State—1993–94 Schools and Staffing Survey Selected State Results* (NCES 96-312). Further information about the sample may be obtained *from 1993–94 Schools and Staffing Survey: Sample Design and Estimation* (NCES 96-089). Data from previous SASS collections are published in the 1987–88 and 1990–91 *Profile* (NCES 92-127 and 93-146, respectively), as well as the 1987–88 and 1990–91 versions of the sample design report (NCES 91-127 and 93-449, respectively).

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Office of Special Education and Rehabilitative Services
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Annual Report to Congress on the Implementation of the Individuals with Disabilities Education Act

The Individuals with Disabilities Education Act (IDEA), formerly the Education of the Handicapped Act (EHA), requires the Secretary of Education to annually transmit to Congress a report that describes our school systems' progress in serving the Nation's disabled children. The annual report contains information on such children served by the public schools under the provisions of Part B of the IDEA and on children served in state-operated programs (SOP) for the disabled under Chapter I of the Education Consolidation and Improvement Act (ECIA). Statistics on children who receive special education and related services in various settings and on school personnel who provide such services are reported in an annual submission of data to the Office of Special Education and Rehabilitative Services (OSERS) by the 50 states, the District of Columbia, and the outlying areas. The child-count information is based on the number of disabled children who receive special education and related services on December 1 of each year for IDEA and October 1 for Chapter I of ECIA/SOP.

For more information about the *Annual Report to Congress* contact:

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Bureau of the Census
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Current Population Survey

Current estimates of school enrollment and social and economic characteristics of students are based on data collected in the Bureau of the Census' monthly household survey of about 60,000 households, known as the Current Population Survey (CPS). The CPS covers 729 sample areas consisting of 1,973 counties, independent cities, and minor civil divisions throughout the 50 states and the District of Columbia. Up to 1993, the sample was selected from 1980 census files and is periodically updated to reflect new housing construction. In 1994, the questionnaire for the CPS was redesigned, and the computer-assisted personal interviewing (CAPI) method was implemented. In addition, the 1990 census-based population controls with adjustments for the estimated population undercount were also introduced.

The primary function of the monthly CPS is to collect data on labor force participation of the civilian noninstitutional population. (It excludes military personnel and inmates of institutions.) In October of each year, questions on school enrollment by grade and other school characteristics are asked about each member of the household.

For additional information refer to the *Current Population Reports*, Series P-20, or contact:

Education and Social Stratification Branch
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School Enrollment. Each October, the CPS includes supplemental questions on the enrollment status of the population aged 3 and older. Annual reports documenting school enrollment of this population have been produced by the Bureau of the Census since 1946. The latest report is *Current Population Reports*, Series P-20, *School Enrollment—Social and Economic Characteristics of Students: October 1994.*

For additional information about the CPS school enrollment data, contact:

Education and Social Stratification Branch
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Bureau of the Census
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Educational Attainment. Data on years of school completed are derived from two questions on the CPS instrument. Biennial reports documenting educational attainment are produced by the Bureau of the Census using March CPS data. The latest report is *Current Population Reports*, Series P-20, No. 476 *Educational Attainment in the United States, March 1993 and 1992.*

Beginning with the data for March 1994, tabulations are controlled to the 1990 census. Estimates for earlier years were controlled to earlier censuses.

For additional information about educational attainment data, contact:

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Voting and Registration. In November of election years, the CPS includes supplemental questions on voting and registration within the civilian noninstitutional population. CPS voting estimates exceed counts of the actual number of votes cast. On balance, the CPS overstates voting in Presidential elections by 10–20 percent of the total number of persons reported as having voted.

Data on voter participation by social and economic characteristics of the population of voting age have been published since 1964 in *Current Population Reports,* Series P-20. The latest report is "Voting and Registration in the Election of November 1994."

For additional information about voting and registration, contact:

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2. Other Organization Sources

American College Testing Program

The American College Testing (ACT) Assessment is designed to measure educational development in the areas of English, mathematics, social studies, and natural sciences. The ACT Assessment is taken by college-bound high school students, and the test results are used to predict how well students might perform in college.

Prior to the 1984–85 school year, national norms were based on a 10 percent sample of the students taking the test. Since then, national norms have been based on the test scores of all students taking the test. Moreover, beginning with 1984–85, these norms have been based on the most recent ACT scores available from students scheduled to graduate in the spring of the year in which they take the test. Duplicate test records are no longer used to produce national figures.

The 1990 ACT assessment is significantly different from previous years. Consequently, it is not possible to make direct comparisons between scores earned in 1990 and scores earned in previous years. To permit continuity in the tracking of score trends, ACT has established links between scores earned on ACT tests administered before October 1989 and scores on the new ACT.

For additional information about the ACT Assessment, contact:

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Iowa City, IA 52243

American Federation of Teachers

The American Federation of Teachers (AFT) reports national and state average salaries and earnings of teachers, other school employees, government workers, and professional employees over the past 25 years. The AFT's survey of state departments of education obtains information on minimum salaries, experienced teachers reentering the classroom, and teacher age and experience. Most data from the survey are reported as received, although some data are confirmed by telephone. These data are available in the AFT's annual report *Survey and Analysis of Salary Trends.* While serving as the primary vehicle for reporting the results of the AFT's annual survey of state departments of education, several other data sources are also used in this report.

For additional information about this survey, contact:

American Federation of Teachers
555 New Jersey Avenue, NW
Washington, DC 20001

College Entrance Examination Board

The Admissions Testing Program of the College Board comprises a number of college admissions tests, including the Preliminary Scholastic Assessment Test (PSAT), the Scholastic Assessment Test (SAT), and Advanced Placement (AP) examinations. High school students participate in the testing program as sophomores, juniors, or seniors—some more than once during these 3 years. If they have taken the tests more than once, only the most recent scores are tabulated. The PSAT and SAT report subscores in the areas of mathematics and verbal ability.

The SAT results are not representative of high school students or college bound students nationally since the sample is self-selected. Generally, tests are taken by students who need the results to attend a particular college or university. The state totals are greatly affected by the requirements of its state colleges. Public colleges in a number of states require ACT scores rather than SAT scores. Thus, the proportion of students taking the SAT in these states is very low and is inappropriate for any comparison. In recent years, about 1 million high school students have taken the examination annually.

For additional information about the SAT, contact:

College Entrance Examination Board
Educational Testing Service
Princeton, NJ 08541

National Education Association

Estimates of School Statistics

The National Education Association (NEA) reports revenues and expenditure data in its annual publication, *Estimates of School Statistics*. Each year the NEA prepares regression-based estimates of financial and other education statistics and submits them to the states for verification. Generally, about 30 states adjust these estimates based on their own data. These preliminary data are published by NEA along with revised data from previous years. States are asked to revise previously submitted data as final figures become available. The most recent publication contains all changes reported to the NEA. Some tables in *The Condition of Education* use revised estimates of financial data prepared by the NEA because it is the most current source. Since expenditure data reported to NCES must be certified for use in the U.S. Department of Education formula grant programs (such as Chapter I of the ECIA), NCES data are not available as soon as NEA estimates.

For additional information about this data, contact:

National Education Association—Research
1201 16th Street, NW
Washington, DC 20036

The International Association for the Evaluation of Educational Achievement

IEA Reading Literacy Study

In the period 1989–92, the International Association for the Evaluation of Educational Achievement (IEA) conducted a Reading Literacy Study in 32 systems of education. The study focused on two levels in each of these systems: 1) the grade level where most 9-year-olds were to be found; and 2) the grade level where most 14-year-olds were to be found.

To obtain comparable samples of students, multistage sampling was used in each country and schools or classes were typically drawn with a probability proportional to the size of the school or class.

Additional information is available in the IEA report, *How in the World Do Students Read?* by Warwick B. Elley.

The Third International Mathematics and Science Study

The Third International Mathematics and Science Study (TIMSS) is the largest, most comprehensive, and most rigorous international comparison of education ever undertaken. During the 1995 school year, the study tested the mathematics and science knowledge of half a million students from 41 nations at five different grade levels. At the same time, the students, their teachers, and the principals of their schools were asked to respond to questionnaires about their backgrounds and their attitudes, experiences, and practices in the teaching and learning of mathematics and science.

TIMSS is a collaborative research project sponsored by the International Association for the Evaluation of Educational Achievement (IEA). The TIMSS International Study Center is housed in the Center for the Study of Testing, Evaluation, and Educational Policy (CSTEEP) at Boston College. The TIMSS International Study Director, Albert E. Beaton, directs the international activities of the study, together with his staff at the International Study Center. To contact the TIMSS International Study Center:

Dr. Albert Beaton, TIMSS International
  Study Director
CSTEEP, Campion Hall 323
Boston College
Chesnut Hill, MA 02167
Telephone: (617) 552-4521
e-mail: timss@hermes.bc.edu

Organization for Economic Co-operation and Development

The Organization for Economic Co-operation and Development (OECD) publishes analyses of national policies in education, training, and economics in 23 countries. The countries surveyed include:

Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Ireland, Italy, Japan, Luxembourg, Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, Turkey, United Kingdom, United States, and Yugoslavia.

Since only developed nations, mostly European, are included in OECD studies, the range of analysis is limited. However, OECD data allow for some detailed international comparisons of financial resources or other education variables to be made for this selected group of countries.

For additional information about OECD data, contact:

OECD/CERI/INES
2, rue Andre-Pascal
75775 PARIS CEDEX 16, France

Internet: http//www.oecd.org/els/

Sources by Indicator

Federal Agency Sources

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Glossary

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Academic support: (See Expenditures.)

Adult education: College, vocational, or occupational programs, continuing education or noncredit courses, correspondence courses and tutoring, as well as courses and other educational activities provided by employers, community groups, and other providers.

Advanced degree: Any formal degree attained after the bachelor's degree. Advanced degrees include master's degrees, doctoral degrees, and professional degrees.

Appropriations (federal funds): Budget authority provided through the congressional appropriation process that permits federal agencies to incur obligations and to make payments.

Appropriations (institutional revenues): An amount (other than a grant or contract) received from or made available to an institution through an act of a legislative body.

Associate's degree: A degree granted for the successful completion of a subbaccalaureate program of studies, usually requiring at least 2 years (or equivalent) of full-time college-level study. This includes degrees granted in a cooperative or work-study program.

Auxiliary enterprises: (See Revenues.)

Average daily attendance (ADA): The aggregate attendance of students in a school during a reporting period (normally a school year) divided by the number of days that school is in session during this period. Only days on which the students are under the guidance and direction of teachers should be considered days in session.

Average daily membership (ADM): The aggregate membership of a school during a reporting period (normally a school year) divided by the number of days that school is in session during this period. Only days on which the students are under the guidance and direction of teachers should be considered days in session. The average daily membership for groups of schools having varying lengths of terms is the average of the average daily memberships obtained for the individual schools.

Baccalaureate degree: (See Bachelor's degree.)

Bachelor's degree: A degree granted for the successful completion of a baccalaureate program of studies, usually requiring at least 4 years (or equivalent) of full-time college-level study. This includes degrees granted in a cooperative or work-study program.

Bilingual education: Programs in which students with limited English proficiency are taught using their native language.

Carnegie unit: A standard of measurement used for secondary education that represents the completion of a course that meets one period per day for 1 year.

Catholic school: (See Orientation.)

Cohort: A group of individuals who have a statistical factor in common, for example, year of birth.

Certificate: An award granted for the successful completion of a subbaccalaureate program of studies, usually requiring less than 2 years of full-time postsecondary study.

College: A postsecondary school that offers general or liberal arts education, usually leading to an associate's, bachelor's, master's, doctor's, or first-professional degree. Junior colleges and community colleges are included under this terminology.

Combined elementary and secondary school: A school that encompasses instruction at both the elementary and secondary levels. Examples of combined elementary and secondary school grade spans would be grades 1–12 or grades 5–12.

Computer and information sciences: A group of instructional programs that describes computer and information sciences, including computer programming, data processing, and information systems.

Constant dollars: Dollar amounts that have been adjusted by means of price and cost indexes to eliminate inflationary factors and allow direct comparison across years.

Consumer price index (CPI): This price index measures the average change in the cost of a fixed-market basket of goods and services purchased by consumers.

Control of institutions: A classification of institutions of elementary/secondary or higher education by whether the institution is operated by publicly elected or appointed officials (public control) or by privately elected or appointed officials and derives its major source of funds from private sources (private control).

Core subjects: *A Nation at Risk* recommended that all students seeking a high school diploma be required to enroll in a core curriculum called "New Basics." The core subjects included in this plan are 4 units of English; 3 units each of science, social studies, and mathematics; and 0.5 units of computer science.

Cost of college attendance: Cost of living for students attending postsecondary institutions, including tuition and fees, books, room and board, child care, transportation, and other miscellaneous expenses.

Current dollars: Dollar amounts that have not been adjusted to compensate for inflation.

Current expenditures (elementary/secondary): Expenditures for the day-to-day operations of the schools. Expenditures for items lasting more than one year (such as school buses and computers) are not included in current expenditures.

Current expenditures per pupil in enrollment: (See Expenditures.)

Current-fund expenditures: (See Expenditures.)

Current-fund revenues: (See Revenues.)

Dependent student: A student who under federal criteria is considered to be financially dependent on his or her parents or guardians. Most full-time students are considered dependent until they are 24 years old.

Doctor's degree: An earned degree carrying the title of Doctor. The Doctor of Philosophy degree (Ph.D.) is the highest academic degree and requires mastery within a field of knowledge and demonstrated ability to perform scholarly research. Other doctorates are awarded for fulfilling specialized requirements in professional fields, such as education (Ed.D.), musical arts (D.M.A.), business administration (D.B.A.), and engineering (D.Eng. or D.E.S.). Many doctor's degrees in both academic and professional fields require an earned master's degree as a prerequisite. First-professional degrees, such as M.D. and D.D.S., are not included under this heading. (See First-professional degree.)

Dropout: The term is used both to describe the event of leaving school before graduating and the status of an individual who is not in school and who is not a graduate. Transferring schools, for example, from a public to a private school, is not regarded as a dropout event. A person who drops out of school may later return and graduate. At the time the person left school initially, he or she is called a *dropout*. At the time the person returns to school, he or she is called a *stopout*. Measures to describe these often complicated behaviors include the event dropout rate (or the closely related school persistence rate), the status dropout rate, and the high school completion rate.

Educational and general expenditures: (See Expenditures.)

Educational attainment: The highest grade of regular school attended and completed.

Elementary school: A school classified as elementary by state and local practice and composed of any span of grades not above grade eight. Preschool or kindergarten is included under this heading only if it is an integral part of an elementary school or a regularly established school system.

Elementary/secondary school: As reported in this publication, includes only regular schools (i.e., schools that are part of state and local school systems, and also most not-for-profit private elementary/secondary schools, both religiously affiliated and nonsectarian). Schools not reported include subcollegiate departments of institutions of higher education, residential schools for exceptional children, federal schools for American Indians, and federal schools on military posts and other federal installations.

Employed: Includes civilian, noninstitutionalized persons who 1) worked during any part of the survey week as paid employees; worked in their own businesses, professions, or farms; or worked 15 hours or more as unpaid workers in a family-owned enterprise; or 2) who were not working but had jobs or businesses from which they were temporarily absent due to illness, bad weather, vacation, labor-management dispute, or personal reasons, whether or not they were seeking another job.

Engineering and engineering technologies: Instructional programs that describe the mathematical and natural science knowledge gained by study, experience, and practice and applied with judgment to develop ways to economically use the materials and forces of nature for the benefit of humanity. Includes programs that prepare individuals to support and assist engineers and similar professionals.

English: A group of instructional programs that describes the English language arts, including composition, creative writing, and the study of literature.

English as a Second Language (ESL): Programs that provide intensive instruction in English for students with limited English proficiency.

Enrollment: The total number of students registered in a given school unit at a given time, generally in the fall of a year.

Expected family contribution (EFC): The amount that a family is expected to pay toward meeting costs of postsecondary attendance (both students and parents of dependent students are expected to make contributions). This amount is determined through an analysis of need (i.e., the Congressional Methodology) and is based on taxable and nontaxable income and assets as well as family size, the number of family members attending postsecondary institutions, extraordinary medical expenses, and so forth. For dependent students, the EFC consists of both a parental contribution and a separately calculated student contribution. The minimum student contribution in 1988–89 was $700 for freshmen and $900 for other undergraduates.

Expenditures: Charges incurred, whether paid or unpaid, which are presumed to benefit the current fiscal year. For elementary/secondary schools, these include all charges for current outlays plus capital outlays and interest on school debt. For institutions of higher education, these include current outlays plus capital outlays. For government, these include charges net of recoveries and other correcting transactions other than for retirement of debt, investment in securities, extension of credit, or as agency transaction. Also, government expenditures include only external transactions, such as the provision of prerequisites or other payments in kind. Aggregates for groups of governments exclude intergovernmental transactions among the governments.

Academic support: This category of college expenditures includes expenditures for support services that are an integral part of the institution's primary missions of instruction, research, or public service. Includes expenditures for libraries, galleries, audio/visual services, academic computing support, ancillary support, academic administration, personnel development, and course and curriculum development.

Current expenditures (elementary/secondary): The expenditures for operating local public schools, excluding capital outlay and interest on school debt. These expenditures include such items as salaries for school personnel, fixed charges, student transportation, school books and materials, and energy costs. Beginning in 1980–81, expenditures for state administration are excluded.

Current expenditures per pupil in enrollment: Current expenditures for the regular school term divided by the total number of students registered in a given school unit at a given time, generally in the fall of a year.

Current-fund expenditures (higher education): Money spent to meet current operating costs, including salaries, wages, utilities, student services, public services, research libraries, scholarships, fellowships, auxiliary enterprises, hospitals, and independent operations. Excludes loans, capital expenditures, and investments.

Educational and general expenditures: The sum of current-fund expenditures on instruction, research, public service, academic support, student services, institutional support, operation and maintenance of plant, and awards from restricted and unrestricted funds.

Instruction: This category includes expenditures of the colleges, schools, departments, and other instructional divisions of higher education institutions, and expenditures for departmental research and public service, which are not separately budgeted. Includes expenditures for both credit and noncredit activities. Excludes expenditures for academic administration where the primary function is administration (e.g., academic deans).

Scholarships and fellowships: This category of college expenditures applies only to money given in the form of outright grants and trainee stipends to individuals enrolled in formal course work, either for credit or not. Aid to students in the form of tuition or fee remissions is included. College work-study funds are excluded and are reported under the program in which the student is working. In the tabulations in this volume, Pell grants are not included in this expenditure category.

Expenditures per pupil: Charges incurred for a particular period of time divided by a student unit of measure, such as enrollment, average daily attendance, or average daily membership.

Family income: The combined income of all family members 14 years old and older living in the household for the period of 1 year. Income includes money income from jobs; net income from business, farm, or rent; pensions; dividends; interest; social security payments; and any other money income.

Federal aid: Student financial aid whose source is the federal government. This aid can either be provided by or administered by a federal agency. Federal agencies providing aid include the Department of Education, Department of Health and Human Services, Department of Defense, Veterans Administration, and the National Science Foundation. Federal aid can be in the form of grants, loans, and work-study aid.

Federal funds: Amounts collected and used by the federal government for the general purposes of the government. There are four types of federal fund accounts: the general fund, special funds, public enterprise funds, and intragovernmental funds. The major federal fund is the general fund, which is derived from general taxes and borrowing. Federal funds also include certain earmarked collections, such as those generated by and used to finance a continuing cycle of business-type operations.

First-professional degree: A degree that signifies both completion of the academic requirements for beginning practice in a given profession and a level of professional skill beyond that normally required for a bachelor's degree. This degree is usually based on a program requiring at least 2 academic years of work prior to entrance and a total of at least 6 academic years of work to complete the degree program, including both prior-required college work and the professional program itself. By NCES definition, first-professional degrees are awarded in the fields of dentistry (D.D.S or D.M.D.), medicine (M.D.), optometry (O.D.), osteopathic medicine (D.O.), pharmacy (D.Phar.), podiatric medicine (D.P.M.), veterinary medicine (D.V.M.), chiropractic (D.C. or D.C.M.), law (J.D.), and theological professions (M.Div. or M.H.L.).

First-time teachers: Individuals who are teaching full time in the Nation's school system for the first time. These teachers include recent college graduates, former substitute teachers, or individuals who had other jobs besides teaching either inside or outside the field of education.

Fiscal year: The yearly accounting period for the federal government, which begins on October 1 and ends on the following September 30. The fiscal year is designated by the calendar year in which it ends; for example, fiscal year 1992 begins on October 1, 1991, and ends on September 30, 1992. (From fiscal year 1844 to fiscal year 1976 the fiscal year began on July 1 and ended on the following June 30.)

Foreign languages: A group of instructional programs that describes the structure and use of language that is common or indigenous to individuals of the same community or nation, the same geographical area, or the same cultural traditions. Programs cover such features as sound, literature, syntax, phonology, semantics, sentences, prose, and verse, as well as the development of skills and attitudes used in communicating and evaluating thoughts and feelings through oral and written language.

Free lunch eligibles: The National School Lunch Program's assistance program for low income children. Families with school-age children who fall below the poverty level and have no other significant assets are eligible to receive government assistance in the form of free or reduced-price school lunches.

Full-time enrollment: The number of students enrolled in higher education courses with a total credit load equal to at least 75 percent of the normal full-time course load.

Full-time-equivalent (FTE) enrollment: For institutions of higher education, enrollment of full-time students, plus the full-time equivalent of part-time students as reported by institutions. In the absence of an equivalent reported by an institution, the FTE enrollment is estimated by adding one-third of part-time enrollment to full-time enrollment.

Full-time instructional faculty: Those members of the instruction/research staff who are employed full time as defined by the institution, including faculty with released time for research and faculty on sabbatical leave. Full-time counts exclude faculty who are employed to teach less than two semesters, three quarters, two trimesters, or two 4-month sessions; replacements for faculty on sabbatical leave or those on leave without pay; faculty for preclinical and clinical medicine; faculty who are donating their services; faculty who are members of military organizations and paid on a different pay scale from civilian employees; academic officers whose primary duties are administrative; and graduate students who assist in the instruction of courses.

Full-time worker: One who is employed for 35 or more hours per week, including paid leave for illness, vacation, and holidays. Hours may be reported either for a survey reference week, or for the previous calendar year, in which case they refer to the usual hours worked.

GED recipient: A person who has obtained certification of high school equivalency by meeting state requirements and passing an approved exam, which is intended to provide an appraisal of the person's achievement or performance in the broad subject matter areas usually required for high school graduation. (See General Educational Development Test.)

General Educational Development (GED) Test: A test administered by the American Council on Education as the basis for awarding a high school equivalency certification.

Geographic region: 1) The four regions used by the Bureau of Economic Analysis of the U.S. Department of Commerce, the National Assessment of Educational Progress, and the National Education Association (NEA) are as follows (note that the NEA designated the Central region as the Middle region in its classification):

Northeast
Connecticut
Delaware
District of Columbia
Maine
Maryland
Massachusetts
New Hampshire
New Jersey
New York
Pennsylvania
Rhode Island
Vermont

Southeast
Alabama
Arkansas
Florida
Georgia
Kentucky
Louisiana
Mississippi
North Carolina
South Carolina
Tennessee
Virginia
West Virginia

Central (Middle)
Illinois
Indiana
Iowa
Kansas
Michigan
Minnesota
Missouri
Nebraska
North Dakota
Ohio
South Dakota
Wisconsin

West
Alaska
Arizona
California
Colorado
Hawaii
Idaho
Montana
Nevada
New Mexico
Oklahoma
Oregon
Texas
Utah
Washington
Wyoming

2) The regions used by the Bureau of the Census in Current Population Survey (CPS) tabulations are as follows:

Northeast
(New England)
Maine
New Hampshire
Vermont
Massachusetts
Rhode Island
Connecticut

(Middle Atlantic)
New York
New Jersey
Pennsylvania

Midwest
(East North Central)
Ohio
Indiana
Illinois
Michigan
Wisconsin

(West North Central)
Minnesota
Iowa
Missouri
North Dakota
South Dakota
Nebraska
Kansas

South
(South Atlantic)
Delaware
Maryland
District of Columbia
Virginia
West Virginia
North Carolina
South Carolina
Georgia
Florida

(East South Central)
Kentucky
Tennessee
Alabama
Mississippi

(West South Central)
Arkansas
Louisiana
Oklahoma
Texas

West
(Mountain)
Montana
Idaho
Wyoming
Colorado
New Mexico
Arizona
Utah
Nevada

(Pacific)
Washington
Oregon
California
Alaska
Hawaii

Government appropriation: An amount (other than a grant or contract) received from or made available to an institution through an act of a legislative body.

Government grant or contract: Revenues from a government agency for a specific research project or other program.

Graduate: An individual who has received formal recognition for the successful completion of a prescribed program of studies.

Graduate Record Examination (GRE): Multiple-choice examinations administered by the Educational Testing Service (ETS) and taken by applicants who plan to attend certain graduate schools. Two generalized tests are offered, plus specialized tests in a variety of subject areas. Ordinarily, a student will take only the specialized test that applies to the intended field of study.

Grants: Also known as scholarships, these are funds for postsecondary education that do not have to be repaid.

Gross Domestic Product (GDP): Gross national product less net property income from abroad. Both gross national product and gross domestic product aggregate only the incomes of residents of a nation, corporate and individual, derived directly from the current production of goods and services. However, gross national product also includes net property from abroad. (See also Gross National Product.)

Gross National Product (GNP): A measure of the money value of the goods and services available to the nation from economic activity. GNP can be viewed in terms of expenditure categories, which include purchases of goods and services by consumers and government, gross private domestic investment, and net exports of goods and services. The goods and services included are largely those bought for final use (excluding illegal transactions) in the market economy. A number of inclusions, however, represent imputed values, the most important of which is rental value of owner-occupied housing. GNP, in this broad context, measures the output attributable to the factors of production, labor, and property supplied by U.S. residents.

Guidance counselor: (See Staff, elementary/secondary education.)

High school: A secondary school offering the final years of high school work necessary for graduation, usually including grades 10, 11, 12 (in a 6-3-3 plan) or grades 9, 10, 11, and 12 (in a 6-2-4 plan).

High school program: A program of studies designed to prepare students for their postsecondary education and occupation. Four types of programs are usually distinguished as academic, vocational, general, and personal use. An academic program is designed to prepare students for continued study at a college or university. A vocational program is designed to prepare students for employment in one or more semiskilled, skilled, or technical occupations. A general program is designed to provide students with the understanding and competence to function effectively in a free society, and usually represents a mixture of academic and vocational components. A personal use program provides a student with general skills in areas such as health, religion, and military science.

Higher education: Study beyond secondary school at an institution that offers programs terminating in an associate's, bachelor's, or higher degree.

Higher education institutions (general definition): Institutions providing education above the instructional level of the secondary schools, usually beginning with grade 13. Typically, these institutions include colleges, universities, graduate schools, professional schools, and other degree-granting institutions.

Higher education price index: A price index that measures average changes in the prices of goods and services purchased by colleges and universities through current-fund education and general expenditures (excluding expenditures for sponsored research and auxiliary enterprises).

Humanities: Instructional programs in the following fields: area and ethnic studies, foreign languages, letters, liberal/general studies, multi/interdisciplinary studies, philosophy and religion, theology, and the visual and performing arts.

Independent operations: A group of self-supporting activities under the control of a college or university. For purposes of financial surveys conducted by the National Center for Education Statistics, this category is composed principally of federally funded research and development centers (FFRDC).

Inflation: An upward movement in general price levels that results in a decline of purchasing power.

Institutional support: The category of higher education expenditures that includes day-to-day operational support for colleges, excluding expenditures for physical plant operations. Examples of institutional support include general administrative services, executive direction and planning, legal and fiscal operations, and community relations.

Instruction: (See Expenditures.)

Instructional expenditures (elementary/secondary): Current expenditures for activities directly associated with the interaction between teachers and students. These include teacher salaries and benefits, supplies (such as textbooks), and purchased instructional services.

Instructional staff: Full-time-equivalent number of positions, not the number of different individuals occupying the positions during the school year. In local schools, includes all public elementary and secondary (junior and senior high) day-school positions that are in the nature of teaching or in the improvement of the teaching-learning situation. Includes consultants or supervisors of instruction, principals, teachers, guidance personnel, librarians, psychological personnel, and other instructional staff. Excludes administrative staff, attendance personnel, clerical personnel, and junior college staff.

International Standard Classification of Education (ISCED) levels: The International Standard Classification of Education (ISCED) was designed as an instrument for presenting statistics on education internationally. Many countries report education statistics to UNESCO and the Organization for Economic Co-operation and Development (OECD) using the ISCED. In this classification system, education is divided into several levels. The levels that follow are presented in *The Condition of Education.*

> *Education preceding the first level (early childhood education)* where it is provided, usually begins at age 3, 4, or 5 (sometimes earlier) and lasts from 1–3 years. For the United States, this would be mostly nursery schools and kindergarten classes.
>
> *Education at the first level (primary education)* usually begins at age 5, 6, or 7 and lasts for about 5 or 6 years. For the United States, the first level starts with grade 1 and ends with grade 6.
>
> *Education at the second level (lower secondary education)* begins at about age 11 or 12 and lasts for about 3 years. For the United States, the second level starts with grade 7 and ends with grade 9.
>
> *Education at the third level (upper secondary education)* begins at about age 14 or 15 and lasts for approximately 3 years. For the United States, the third level starts with grade 10 and ends with grade 12.
>
> *Education at the fifth level (nonuniversity higher education)* is provided at community colleges, vocational-technical colleges, and other degree-granting institutions in which programs typically take 2 years or more, but less than 4 years to complete.
>
> *Education at the sixth level (university higher education)* is provided in undergraduate programs at 4-year colleges and universities in the United States and, generally, at universities in other countries. Completing education at the third level (upper secondary education) is usually required as a minimum condition for admission. Admission is competitive in most cases.
>
> *Education at the seventh level (graduate and professional higher education)* is provided in graduate and professional schools that generally require a university diploma as a minimum condition for admission.
>
> *Education at the ninth level (undistributed)* is a classification reserved for enrollments, expenditures, or programs that cannot be unambiguously assigned to one of the aforementioned levels. Some countries, for example, assign nongraded special education or recreational nondegree adult education programs to this level. Other countries assign nothing to this level, preferring instead to allocate enrollments, expenditures, and programs to levels as best they can.

Labor force: Individuals employed as civilians, unemployed, or in the armed services during the survey week. The "civilian labor force" is composed of all civilians classified as employed or unemployed. (See Employed and Unemployed.)

Life sciences: Life sciences are instructional programs that describe the systematic study of living organisms. Life sciences include biology, biochemistry, biophysics, and zoology.

Limited-English-proficient: A concept developed to assist in identifying those language-minority students (children from language backgrounds other than English) who need language assistance services, in their own language or in English, in the schools. The Bilingual Education Act, reauthorized in 1988 (P.L. 100-297), describes a limited-English-proficient (LEP) student as one who

1) meets one or more of the following conditions:
   a) a student who was born outside the United States or whose native language is not English;
   b) a student who comes from an environment where a language other than English is dominant; or
   c) a student who is an American Indian or Alaskan Native and comes from an environment where a language other than English has had a significant impact on his/her level of English language proficiency; and
2) has sufficient difficulty speaking, reading, writing, or understanding the English language to deny him or her the opportunity to learn successfully in English-only classrooms.

In practice, many ways of making this determination about an individual student are being used by school systems across the United States. These include various combinations of home language surveys, informal teacher determination, formal interviews, and a number of types of assessment tests for classification, placement, and monitoring of progress.

Loan: Borrowed money that must be repaid.

Local education agency (LEA): (See School district.)

Master's degree: A degree awarded for successful completion of a program generally requiring 1 or 2 years of full-time college-level study beyond the bachelor's degree. One type of master's degree, including the Master of Arts degree, or M.A., and the Master of Science degree, or M.S., is awarded in the liberal arts and sciences for advanced scholarship in a subject field or discipline and demonstrated ability to perform scholarly research. A second type of master's degree is awarded for the completion of a professionally oriented program, for example, an M.Ed. in education, an M.B.A. in business administration, an M.F.A. in fine arts, an M.M. in music, an M.S.W. in social work, and an M.P.A. in public administration. A third type of master's degree is awarded in professional fields for study beyond the first-professional degree, for example, the Master of Laws (LL.M.) and Master of Science in various medical specializations.

Mathematics: A group of instructional programs that describes the science of logical symbolic language and its applications.

Metropolitan population: The population residing in metropolitan statistical areas (MSAs). (See Metropolitan Statistical Area.)

Metropolitan Statistical Area (MSA): A large population nucleus and the nearby communities that have a high degree of economic and social integration with that nucleus. Each MSA consists of one or more entire counties (or county equivalents) that meet specified standards pertaining to population, commuting ties, and metropolitan character. In New England, towns and cities, rather than counties, are the basic units. MSAs are designated by the Office of Management and Budget. An MSA includes a city and, generally, its entire urban area and the remainder of the county or counties in which the urban area is located. An MSA also includes such additional outlying counties that meet specified criteria relating to metropolitan character and level of commuting of workers into the central city or counties. Specified criteria governing the definition of MSAs recognized before 1980 are published in *Standard Metropolitan Statistical Areas: 1975*, issued by the Office of Management and Budget. New MSAs were designated when 1980 counts showed that they met one or both of the following criteria:

1) Included a city with a population of at least 50,000 within their corporate limits; or
2) Included a Census Bureau-defined urbanized area (which must have a population of at least 50,000) and a total MSA population of at least 100,000 (or, in New England, 75,000).

Minority: Any racial/ethnic group that is nonwhite is considered minority. (See Racial/ethnic group.)

Modal grade: The modal grade is the year of school in which the largest proportion of students of a given age are enrolled. Enrolled persons are classified according to their relative progress in school, that is, whether the grade or year in which they were enrolled was below, at, or above the modal (or typical) grade for persons of their age at the time of the survey.

A Nation at Risk: A report published by the U.S. Department of Education in 1983 highlighting deficiencies in knowledge of the Nation's students and population as a whole in areas such as literacy, mathematics, geography, and basic science.

Natural sciences: A group of fields of study that includes the life sciences, physical sciences, and mathematics.

Nonmetropolitan residence group: The population residing outside metropolitan statistical areas. (See Metropolitan statistical area.)

Nonsupervisory instructional staff: Persons such as curriculum specialists, counselors, librarians, remedial specialists, and others possessing education certification but not responsible for day-to-day teaching of the same group of pupils.

Nontenure-track faculty: Faculty members who were either not on the tenure track or whose faculty status lacked a tenure system at the sampled institution.

Nursery school: (See Preprimary.)

Obligations: Amounts of orders placed, contracts awarded, services received, or similar legally binding commitments made by federal agencies during a given period that will require outlays during the same or some future period.

Orientation (private school): The group or groups, if any, with which a private elementary/secondary school is affiliated, or from which it derives subsidy or support. Such organizations include the following:

> **Catholic school:** A private school over which a Roman Catholic church group exercises some control or provides some form of subsidy. Catholic schools for the most part include those operated or supported by: a parish, a group of parishes, a diocese, or a Catholic religious order.
>
> **Other religious school:** A private school that is affiliated with an organized religion or denomination other than Roman Catholicism or that has a religious orientation other than Catholicism in its operation and curriculum.
>
> **Nonsectarian school:** A private school whose curriculum and operation are independent of religious orientation and influence in all but incidental ways.

Other technical/professional fields: A group of occupationally oriented fields, other than business, computer science, education, and engineering, which includes agriculture and agricultural sciences, architecture, communications, communications technologies, home economics, law, library and archival sciences, military sciences, parks and recreation, protective services, and public affairs.

Outlays: The value of checks issued, interest accrued on the public debt, or other payments made, net of refunds and reimbursements.

Part-time enrollment: The number of students enrolled in higher education courses with a total credit load less than 75 percent of the normal full-time credit load.

Part-time worker: One who is employed for 1–34 hours a week, including paid leave for illness, vacation, and holidays. Hours may be reported either for a survey reference week, or for the previous calendar year, in which case they refer to the usual hours worked.

Part-year worker: One who was employed at least 1 week but fewer than 50 weeks during the previous calendar year, including paid leave for illness, vacation, or other reasons.

Percentile (score): A value on a scale of zero to 100 that indicates the percent of a distribution that is equal to or below it. For example, a score in the 95th percentile is a score equal to or better than 95 percent of all other scores.

Personal income: Current income received by persons from all sources minus their personal contributions for social insurance. Classified as "persons" are individuals (including owners of unincorporated firms), nonprofit institutions serving individuals, private trust funds, and private noninsured welfare funds. Personal income includes transfers (payments not resulting from current production) from government and business such as social security benefits and military pensions, but excludes transfers among persons.

Physical sciences: Physical sciences are instructional programs that describe inanimate objects, processes, or matter, energy, and associated phenomena. Physical sciences include astronomy, astrophysics, atmospheric sciences, chemistry, geology, physics, planetary science, and science technologies.

Portfolio: A collection of student-generated artifacts. Portfolios are used to provide evidence over a period of time about the range and extent of a student's performance and growth.

Postsecondary education: The provision of formal instructional programs with a curriculum designed primarily for students who have completed the requirements for a high school diploma or equivalent. This includes programs of an academic, vocational, and continuing professional education purpose, and excludes vocational and adult basic education programs.

Poverty level: Poverty status is based on reports of family income on the March Current Population Survey. Families or individuals with gross incomes below the poverty threshold are classified as below the poverty level. Poverty thresholds in 1992 ranged from $7,143 for a person living alone to $28,745 for a family of four or more.

Prekindergarten: (See Preprimary.)

Preprimary: Elementary education programs for children who are too young for first grade. The year before first grade is called kindergarten; the year(s) before kindergarten is called preschool, nursery school, or prekindergarten. Not included in prekindergarten is essentially custodial care provided in private homes. Prekindergarten programs may be provided in regular elementary schools (with kindergarten, first-grade and higher grade programs) or in preschools (with only prekindergarten programs).

Private school or institution: A school or institution that is controlled by an individual or agency other than a state, a subdivision of a state, or the federal government, which is usually not supported primarily by public funds, and is not operated by publicly elected or appointed officials.

Proprietary institution: An educational institution that is under private control but whose profits derive from revenues subject to taxation.

Purchasing Power Parity (PPP) Indices: Purchasing Power Parity (PPP) exchange rates, or indices, are the currency exchange rates that equalize the purchasing power of different currencies, meaning that when a given sum of money is converted into different currencies at the PPP exchange rates, it will buy the same basket of goods and services in all countries. PPP indices are the rates of currency conversion which eliminate the difference in price levels among countries. Thus, when expenditures on GDP for different countries are converted into a common currency by means of PPP indices, they are expressed at the same set of international prices, so that comparisons among countries reflect only differences in the volume of goods and services purchased.

Racial/ethnic group: Classification indicating general racial or ethnic heritage based on self-identification, as in data collected by the Bureau of the Census, or on observer identification, as in data collected by the Office for Civil Rights. These categories are in accordance with the Office of Management and Budget standard classification scheme presented below:

> **American Indian/Alaskan Native:** A person having origins in any of the original peoples of North America and maintaining cultural identification through tribal affiliation or community recognition.
>
> **Asian/Pacific Islander:** A person having origins in any of the original peoples of the Far East, Southeast Asia, the Indian subcontinent, or the Pacific Islands. This area includes, for example, China, India, Japan, Korea, the Philippine Islands, and Samoa.
>
> **Black:** A person having origins in any of the black racial groups in Africa. Normally excludes persons of Hispanic origin. Those measures that do not exclude persons of Hispanic origin are noted accordingly.
>
> **Hispanic:** A person of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin, regardless of race.
>
> **White:** A person having origins in any of the original peoples of Europe, North Africa, or the Middle East. Normally excludes persons of Hispanic origin. Those measures that do not exclude persons of Hispanic origin are noted accordingly.

Reentrants: Teachers who left the school system for a period of time, and have now returned to classroom teaching.

Remedial course (postsecondary): Courses provided in reading, writing, or mathematics for college students lacking those skills necessary to perform college-level work at the level required by the institution; thus, what constitutes remedial courses varies from institution to institution.

Remedial education: Instruction for a student lacking the reading, writing, or mathematics skills necessary to perform college-level work at the level required by the attended institution.

Revenues: All funds received from external sources, net of refunds, and correcting transactions. Noncash transactions such as receipt of services, commodities, or other receipts "in kind" are excluded, as are funds received from the issuance of debt, liquidation of investments, and nonroutine sale of property.

> **Auxiliary enterprises:** This category includes those essentially self-supporting operations that exist to furnish a service to students, faculty, or staff, and that charge a fee that is directly related to, although not necessarily equal to, the cost of the service. Examples are residence halls, food services, college stores, and intercollegiate athletics.
>
> **Current-fund revenues (higher education):** Money received during the current fiscal year from revenue that can be used to pay obligations currently due, and surpluses reappropriated for the current fiscal year.

Salary: The total amount regularly paid or stipulated to be paid to an individual, before deductions, for personal services rendered while on the payroll of a business or organization.

Salary workers: Any person who worked one or more days during the previous year and was paid on the basis of a yearly salary is considered a salary worker.

Scholarships and fellowships: (See Expenditures.)

Scholastic Assessment Test (SAT): An examination administered by the Educational Testing Service and used to predict the facility with which an individual will progress in learning college-level academic subjects.

School climate: The social system and culture of the school, including the organizational structure of the school and values and expectations within it.

School district: An education agency at the local level that exists primarily to operate public schools or to contract for public school services. Synonyms are "local basic administrative unit" and "local education agency."

School year: The 12-month period of time denoting the beginning and ending dates for school accounting purposes, usually from July 1 through June 30.

Science: The body of related courses concerned with knowledge of the physical and biological world and with the processes of discovering and validating this knowledge.

Secondary school: A school that has any span of grades beginning with the next grade following an elementary or middle school (usually grade 7, 8, or 9) and ending with or below grade 12. Both junior high schools and senior high schools are included.

Social and behavioral sciences: A group of scientific fields of study that includes anthropology, archeology, criminology, demography, economics, geography, history, international relations, psychology, sociology, and urban studies.

Social studies: A group of instructional programs that describes the substantive portions of behavior, past and present activities, interactions, and organizations of people associated together for religious, benevolent, cultural, scientific, political, patriotic, or other purposes.

Socioeconomic status (SES): The SES quartile variable used for both High School and Beyond and the National Education Longitudinal Study of 1988 was built using parental education level, parental occupation, family income, and household items. Students were placed in quartiles based on their standardized composite score. By definition, one quarter of each cohort will reside in the bottom SES quartile, even if education levels, income, and the number of persons in more prestigious occupations increase. The terms high, middle, and low SES refer to the upper, middle two, and lower quartiles of the weighted SES composite index distribution.

Staff assignments, elementary and secondary school:

> **District administrative support staff:** Personnel who are assigned to the staffs of the district administrators. They may be clerks, computer programmers, and others concerned with the functioning of the entire district.
>
> **District administrators:** The chief executive officers of education agencies (such as superintendents and deputies) and all others with district-wide responsibility. Such positions may be business managers, administrative assistants, coordinators, and the like.

Guidance counselors: Professional staff whose activities involve counseling students and parents, consulting with other staff members on learning problems, evaluating the abilities of students, assisting students in personal and social development, providing referral assistance, and working with other staff members in planning and conducting guidance programs for students.

Instructional (teacher) aides: Those staff members assigned to assist a teacher with routine activities associated with teaching (i.e., those activities requiring minor decisions regarding students, such as monitoring, conducting rote exercises, operating equipment, and clerking). Volunteer aides are not included in this category.

Librarians: Staff members assigned to perform professional library service activities such as selecting, acquiring, preparing, cataloging, and circulating books and other printed materials; planning the use of the library by students, teachers, and other members of the instructional staff; and guiding individuals in their use of library books and materials that are maintained separately or as part of an instructional materials center.

Other support services staff: All staff not reported in other categories. This group includes media personnel, social workers, data processors, health maintenance workers, bus drivers, security, cafeteria workers, and other staff.

School administrators: Those staff members whose activities are concerned with directing and managing the operation of a particular school. They may be principals or assistant principals, including those who coordinate school instructional activities with those of the local education agency (LEA) and other appropriate units.

Stopout: (See Dropout.)

Student membership: The count of students enrolled (at a particular school, district, or county, etc.) on or about October 1.

Subbaccalaureate degree: Award granted for the successful completion of studies at either 2-year or less-than-2-year institutions. Subbaccalaureate degrees typically include associate's degrees and certificates.

Support services expenditures (elementary/secondary): Current expenditures for activities which support instruction. These services include school building operation and maintenance, school administration, student support services, student transportation, instructional staff support, school district administration, business services, research, testing, and data processing.

Tax expenditures: Losses of tax revenue attributable to provisions of the federal income tax laws that allow a special exclusion, exemption, or deduction from gross income or provide a special credit, preferential rate of tax, or a deferral of tax liability affecting individual or corporate income tax liabilities.

Technical/professional fields: A group of occupationally oriented fields of study, other than engineering and computer science, that includes agriculture and agricultural sciences, architecture, business and management, communications, education, health sciences, home economics, law, library and archival sciences, military sciences, parks and recreation, protective services, and public affairs.

Tenure-track faculty: Faculty members who were either tenured or on the tenure track at their institution.

Total expenditure per pupil in average daily attendance: Includes all expenditures allocable to per pupil costs divided by average daily attendance. These allocable expenditures include current expenditures for regular school programs, interest on school debt, and capital outlay. Beginning in 1980–81, expenditures for state administration are excluded and expenditures for other programs (summer schools, community colleges, and private schools) are included.

Tuition and fees: A payment or charge for instruction or compensation for services, privileges, or the use of equipment, books, or other goods.

Type of higher education institutions:

4-year institution: An institution legally authorized to offer and offering at least a 4-year program of college-level studies wholly or principally creditable toward a baccalaureate degree. In some tables a further division between universities and other 4-year institutions is made. A "university" is a postsecondary institution that typically comprises one or more graduate professional schools. (See also University.)

2-year institution: An institution legally authorized to offer and offering at least a 2-year program of college-level studies that terminates in an associate's degree or is principally creditable toward a baccalaureate degree.

Undergraduate students: Students registered at an institution of higher education in a program leading to a baccalaureate degree or other formal award below the baccalaureate such as an associate's degree.

Unemployed: Civilians who had no employment but were available for work and 1) had engaged in any specific job-seeking activity within the past 4 weeks, 2) were waiting to be called back to a job from which they had been laid off, or 3) were waiting to report to a new wage or salary job within 30 days.

University: An institution of higher education that consists of a liberal arts college, a diverse graduate program, and usually two or more professional schools or faculties, and is empowered to confer degrees in various fields of study.

Urbanicity:

1) In the Schools and Staffing Survey, school location is categorized based on the classification in both the Common Core of Data (CCD) and the Quality Education data (QED), as drawn from U.S. Census data and definitions. The results are summarized in three variables:
   Central city: central city of an MSA (Metropolitan Statistical Area).
   Urban fringe/large town: area surrounding a central city but within a county constituting an MSA.
   Rural/small town: outside an MSA.

2) In the High School and Beyond Survey, urbanicity is classified based on the Curriculum Information Center code as follows:
   Urban: within a central city of an MSA.
   Suburban: within an MSA but outside the central city area.
   Rural: outside a designated MSA.

Vocational education: Organized educational programs, services, and activities that are directly related to the preparation of individuals for paid or unpaid employment, or for additional preparation for a career, requiring other than a baccalaureate or advanced degree.

Work-study: A generic term for programs designed to provide part-time employment as a source of funds to pay for postsecondary education as well as a federal program that is administered through postsecondary institutions.

Year-round worker: One who was employed at least 50 weeks during the previous calendar year, including paid leave for illness, vacation, or other reasons.

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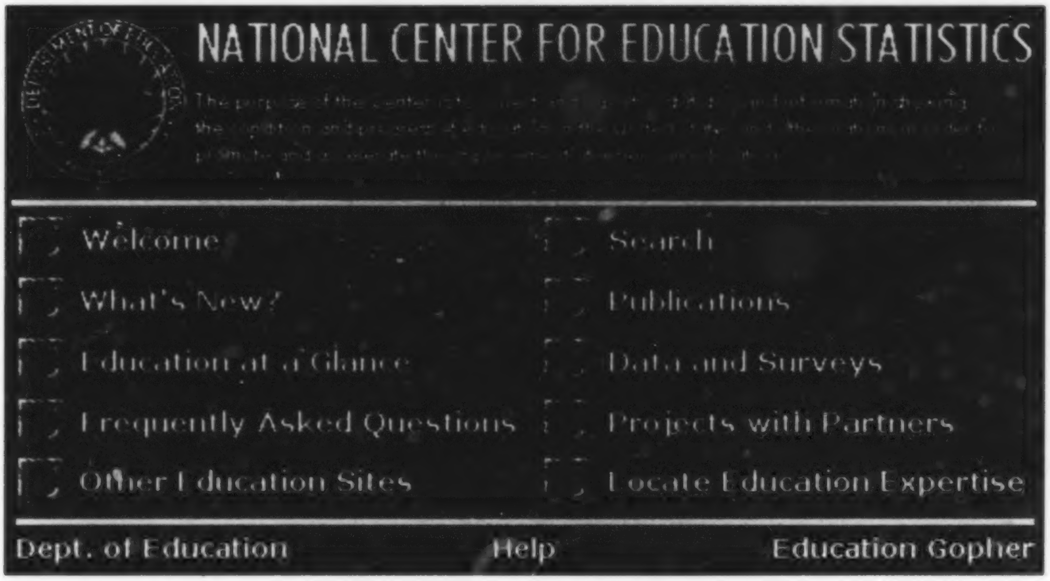
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